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ABSTRACT

THE SCOPE OF THE CALIFORNIA STATE LIBRARY-PROCESSING CENTER (CSL-PC) PROJECT IS TO DEVELOP THE DESIGN AND SPECIFICATIONS FOR A COMPUTERIZED TECHNICAL PROCESSING CENTER TO PROVIDE SERVICES TO A NETWORK OF PARTICIPATING CALIFORNIA LIBRARIES. IMMEDIATE OBJECTIVES ARE: (1) RETROSPECTIVE CONVERSION OF CARD CATALOGS TO A MACHINE-FORM DATA BASE, COMPATIBLE WITH MARC II; (2) CONTINUING CONVERSION OF CURRENT CATALOGING TO MACHINE-FORM DATA BASE, COMPATIBLE WITH MARC II; (3) INCORPORATION OF MARC TAPES, DISTRIBUTED BY THE LIBRARY OF CONGRESS, INTO THE CENTER'S DATA BASE FOR USE IN CATALOGING SUPPORT; (4) PRODUCTION OF BOOK FORM CATALOGS; AND (5) CONTROL OF TECHNICAL PROCESSING ASSOCIATED WITH SERIALS, INCLUDING ORDERING, CHECK-IN, CLAIMING, BINDING, ACCOUNTING AND HOLDING LISTS. FOLLOWING A DEFINITION OF THE SCOPE OF THE PROJECT, FUTURE DEVELOPMENTS ARE DISCUSSED IN A SURVEY OF PLANS AND ACCOMPLISHMENTS OF OTHER COGNATE PROJECTS IN THE AREA OF COOPERATIVE LIBRARY NETWORKS. THIS REPORT ALSO INCLUDES: (1) THE SYSTEM DESCRIPTION, AN OVERVIEW OF SYSTEM FILES AND SYSTEM LOGIC FOR ALL OPERATING FUNCTIONS; (2) A DISCUSSION OF PRODUCTION AND CONTROL, WHICH FOCUSES ON THE PROBLEM AND RECOMMENDED PROCEDURES OF PRODUCTION AND CONTROL OF SOURCE DOCUMENTS DURING THE CONVERSION PROCESS; AND (3) THE CONVERSION PROGRAM. (AUTHOR/JB)

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CALIFORNIA STATE LIBRARY:

PROCESSING CENTER DESIGN AND SPECIFICATIONS

VOL. I: SYSTEM DESCRIPTION AND INPUT PROCESSING

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and
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April 1969

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FOREWORD

REPORT ORGANIZATION

This report is issued in four volumes, the contents of which are as follows:

Volume I : INTRODUCTION (INTRO)
SYSTEM DESCRIPTION (SYS)
PRODUCTION AND CONTROL (PROD)
CONVERSION (CON)

Volume II : FILE MAINTENANCE (MAINT)
AUTHORITY VERIFICATION (VER)
BOOK CATALOG FILING (FILE)
BOOK CATALOG FORMAT (FORM)
PROCESSING CENTER ORGANIZATION (PC-ORG)

Volume III: CODING MANUAL

Volume IV : SERIALS CONTROL SYSTEM

Volumes I and II both focus on technical processing of monograph material. Volume III contains a complete set of input encoding instructions for use by bibliographic editors. Volume IV (soon to be published) develops specifications for the processing of serials data.

Each chapter is prefaced by a table of contents and a table of figures. Further, each chapter also has been assigned a code (given above) which appears in the upper right corner of each page.

ACKNOWLEDGEMENTS

This report is the work of many hands and many minds. It is also the product of an intellectual environment which fosters cheerful co-operation and interaction among its staff members. We wish to acknowledge gratefully the contributions of the project staff: Patricia Barkley, Debbie Barrett, Ruth Dunham, Dennis Fried, Ann Giglioli, Thomas Hargrove, Luke Howe, Ruth Patrick, Keith Stirling and Harriet Zais. We have also relied heavily on the results of work done by Kelley Cartwright, Jay Cunningham, and Roy Torkington.

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D.S.
R.M.S.

Berkeley, Calif. May 1, 1969

INTRODUCTION

Definition of scope of project and
discussion of future developments.

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I. SCOPE OF PROJECT

For the past year ILR has been working under contract to the California State Library to develop the design and specification for a Technical Processing Center. The ultimate focus of the Center is to provide computer processing services to libraries throughout California: that has been the guiding principle in all our design considerations and decisions. While such a goal is long-range and open-ended, certain immediate objectives have been selected as both feasible within the current technological framework and of tangible benefit to libraries within the State.

These objectives, which are defined in Contract #3309, are:

PROCESSING CENTER OBJECTIVES

1. Retrospective conversion of card catalogs to a machine-form data base, compatible with MARC II.
2. Continuing conversion of current cataloging to machine-form data base, compatible with MARC II.
3. Incorporation of MARC II tapes, distributed by the Library of Congress, into the Center's data base for use in cataloging support.
4. Production of book form catalogs.
5. Control of technical processing associated with serials, including ordering, check-in, claiming, binding, accounting and holding lists.

FRAMES OF REFERENCE. There are three very important frames of reference which are controlling the five objectives outlined above. First, the Processing Center is intended to serve a network of participating libraries. Second, its operation is intended to extend in time beyond any conversion period, and therefore its design must accomodate a full range of post-conversion services. Third, the existence of the Processing Center should not be dependent on any particular set of hardware or equipment.

Network. Although the California State Library is the project sponsor and will be the Center's first participant, the intended scope of the system is to offer services to a large network of subscribing libraries. Contrary to other cooperative library networks, participants in the Processing Center need not be geographically or administratively linked to each other. They may subscribe to the Processing Center's services on a simple cost basis without sacrificing any local autonomy or independence.

To this end we have attempted to preserve, where it is technically feasible, significant variations in local cataloging practice and notation. This is embodied in our file structure design in which there is not only a central bibliographic file, but also a holdings file which will record local variations in call number, location and subject/descriptive cataloging.

In terms of output services (fourth objective), the designed system has the following options with respect to book catalog services for participating network libraries:

a. Union catalog of all libraries
b. Union catalog of a defined group of libraries
c. Separate catalog of one single library
d. Separate catalogs for each single library in a defined group of libraries
e. Separate catalogs for each single library in the network

For union catalogs, all variorum and holdings data are consolidated into a single union entry. For separate catalogs, variations are to reflect the catalog records input by each separate library.

Post-Conversion. There is currently a very strong preoccupation in the library community with the problems of converting existing card catalog files to machine-form data bases, especially with respect to retrospective catalogs. Even the Library of Congress has recently begun to consider this very important and very formidable problem. A considerable portion of our design has been directed to creating a smooth and controlled method for accomplishing this work. Here, as in other portions of the system, we have designed a procedure which can be implemented, serially or concurrently, for any group of libraries in the state.

In addition, however, our design is intended to meet the requirements of a continuing Processing Center operation in which a broad range of activities may be occurring simultaneously. These activities include: retrospective conversion, current cataloging conversion, MARC II processing, book catalog production, book catalog supplement production and serials control (which itself embodies conversion, file updating and holdings list production).

INTRO Fig. 1 illustrates the complex mix of the Processing Center's monograph operations during a five-year time span. Two libraries (there will undoubtedly be more) are represented with different conversion start-up and termination dates. It is quite clear that procedures for file updating must begin even before there is a full file to update.

Current cataloging is seen in this example as accumulating over a calendar quarter and then processed as a batch. In this perspective, the initial conversion period is found to occupy only a fraction of the system's total workload over time.

During any quarter the Center may be working concurrently on retrospective conversion, current catalog conversion, book catalog production, and supplement production - to say nothing of serials control functions which are not displayed here.

The conversion and post-conversion aspects of the Center may also be contrasted by examining the changes in system functions between the two time periods, as shown in INTRO Fig. 2.

The purpose of the chart is simply to emphasize the differences in system functions between conversion and on-going operations. Adequate system design must be sensitive to the differences, and cannot concentrate too heavily on conversion simply because it is a more proximate problem.

Hardware Independence. It is very tempting to rely on new equipment, especially in the areas of telecommunications, computers and photocomposition. However, we have opted here for the conservative point of view, with the clear potential to upgrade in hardware as cost and reliability come into clearer focus for library operations. Thus, the system designed for the California State Library - Processing Center operates in a batch-mode, off-line with magnetic tape files and conventional upper/lower case line printer. Stated negatively, the system does not require the support of remote terminals or consoles nor of extensive disk or data cell devices nor of photocomposition units.

However, the system may shift its operation at any point in time to a higher level of equipment consistent with a higher level of service. For example, remote terminals may be added in support of cataloging and acquisition services; or cathode ray tube photocomposition may be utilized for printing book catalogs. Such options are compatible with the data files and design of the Processing Center's system. It seems appropriate to point out, however, that the current system is based on the simplest and least expensive hardware available.

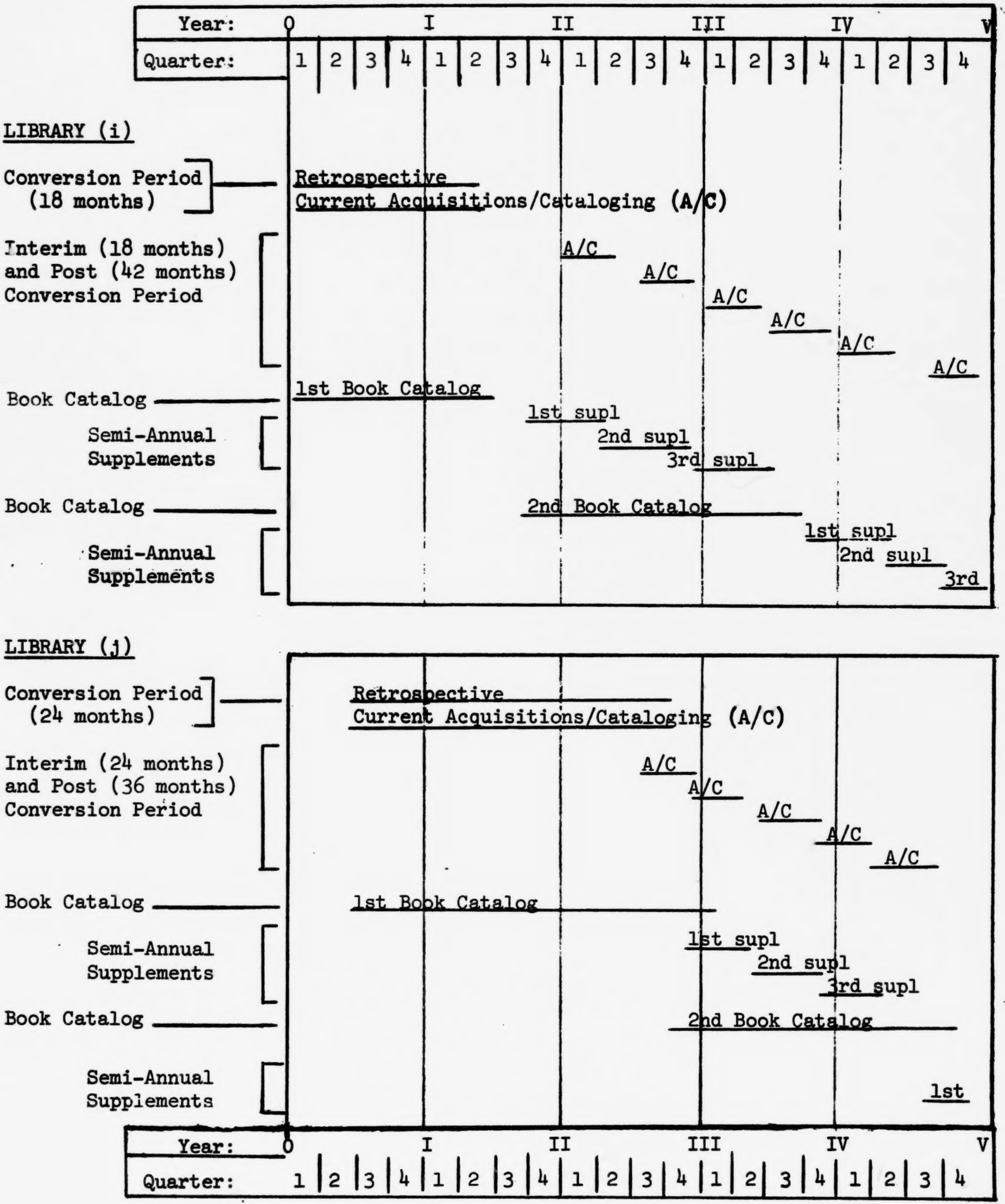
IN SUMMARY, the California State Library - Processing Center is a technical processing center designed to offer services to a network of participating libraries in the areas of file conversion, file maintenance, MARC II processing, book form catalogs and serials control. It is designed to accommodate a mix of operations including overlapping conversion, post-conversion and serials control functions. The Center is designed to operate with a conservative hardware and equipment configuration.

* * * *

The next section of this Introduction will attempt to provide some clues to the future by way of a survey of the plans and accomplishments of other cognate projects in the area of cooperative library networks. A discussion of Processing Center preliminary staff organization is found in Volume 2, chapter Processing Center Organization (PC-ORG).

INTRO Fig. 1: PROCESSING CENTER OPERATIONS

5-YEAR EXAMPLE



INTRO Fig. 2: CONVERSION AND POST-CONVERSION PROCESSING

SYSTEM FUNCTION	START-UP (CONVERSION)	ON-GOING (POST-CONVERSION)
1. Production and control	Large scale one-time effort. Many control problems. High volume desirable.	Steady-state. Requires an extra copy of catalog card or proof slip.
2. Editing and conversion to MARC II	Retrospective data requires bibliographic editing.	Current cataloging should be 85% covered by MARC II tapes. Editing not necessary.
3. File maintenance	Add many new Master File entries.	Master File relatively static. Add many new holdings file entries.
4. Authority Editing	Requires editorial review of name and subject authority lists.	Can use previously edited authority lists. Only need to review new names and subjects.
5. Retrieval and Book Catalog Production	Retrieve and output entire file.	Retrieve and output time-partitioned subsets of the file.

II. LOOKING TO THE FUTURE: POTENTIAL SERVICES OF THE PROCESSING CENTER

The first phase in the design of a Technical Processing Center for the California Public Libraries has been completed. The result is specifications for: (1) the conversion and maintenance of bibliographic records in machine-readable form; (2) the production of book catalogs for subscribing member libraries; and (3) a serials control system. Now that this phase is designed and ready to be implemented, it is time to look ahead at a concept of what the next phase in the design might be.

Reports of the Black Gold Cooperative Library System inform us of the success of cooperation in a regional library network. Their experience with computers and telecommunications has been fruitful, and it is now time to look at larger networks and at how principles of cooperation which they have evolved can be utilized on a much greater scale. Advances in computers accessible by remote terminals and in telecommunications, along with announced support of networks by the Federal Government, forecast greater cooperation amongst more libraries within the states as well as between the states, within the public library system as well as the academic and special library systems.

The scope of this discussion is how to facilitate acquisitions, cataloging and technical processing, and interlibrary loan in a network of libraries linked by a computer and remote terminals. Mention will also be made of new services which will be available to individual members as a result of automation, and some possible problems of a library network. The purpose is to give a general picture of how such a network might operate with upgraded hardware/software facilities.

* * * *

ACQUISITIONS

HOW SYSTEM MIGHT WORK. Suburban Maryland County Library has drawn up detailed plans for an acquisition system. A look at their design will give some idea of what the California State Processing Center will be able to look forward to.

Requisitions Lists. The Maryland system begins the system operation by compiling requisition lists of current books which are likely to be considered for purchase by member libraries. The attempt will be to get information about newly published or about-to-be-published books as soon as possible. Bowker's automation of the production of Publishers' Weekly, BPR, etc., and their encouragement of use of their tapes is an indication of how announcement of new publications will be facilitated and of value to libraries. Although the Virginia Kirkus Service does have its drawbacks, it still is one of the most complete listings of titles in advance of publication, and it will be used by Maryland for pre-publication lists. One well-known drawback of the Kirkus Service is that, although it presents the first reviews of books, the books themselves are not available yet for examination by the librarian. However, it does enable systems to order in advance the items likely to be demanded by their patrons. A second requisition list is also planned based on listings in the Library Journal Review, and another special listing of childrens' books will be compiled by the coordinators of childrens' services.

Provisions are also made for: items not on the above lists; rush orders; retrospective orders in subject areas; reference books; standing orders for yearbooks; current topics; and special areas such as material on the State. Lists for non-book materials (such as maps, filmstrips and slides, paperbacks, etc.) will be developed as needed; librarians will check off the books they wish to acquire on these lists.

Processing. Once an individual library has decided to acquire a book, certain checking has to be done. If the selection has been made from a requisition list, then probably the bibliographic entry would be correct. If the request is not from the list, then the bibliographic entry would have to be verified. Then, it has to be determined whether the request is already held by the library; whether it is on order by the requesting library; whether it is on order by other libraries in the network. If the first two conditions hold, then the order can be cancelled. The third condition would lie in the area of cooperative selection policy.

ADVANTAGES OF THE SYSTEM. Figures show high rates of duplication amongst libraries of a similar type. One advantage of cooperative acquisition using a requisition order list such as the one described above is the savings to be realized from the simultaneous ordering and subsequent cataloging of duplicate copies of books. Moreover, these order lists could provide a means of book selection experiments with current publications, and in addition they could provide a means of evaluating and maintaining certain areas of the collection. For example, each library system could be responsible for the development of basic replacement lists in certain subject areas.

Statistics. Previously it has not been feasible to collect many statistics which could be of value in book selection, such as the number of books in a certain subject field purchased from a certain vendor or publisher. A mechanized cooperative network will make possible analyses of the catalog and acquisition data; the analyses will assist librarians in studying their own collections and will guide future acquisitions. For example, the machine-readable record of the time lag between the date the book order is placed and the date the book itself is received from the vendor would enable a cost-benefit analysis to be made. A computerized accounting and ordering system on the scale of a state-wide network might also facilitate the removal of the middle-man vendor. In addition, a comparative study of the holding of member libraries should reveal interesting statistics on the characteristics of library collections in general, and on the strengths and weaknesses of individual collections.

NEW COLLECTIONS. Another advantage of automated cooperative acquisitions is: that when a system decides to open a new outlet and is faced with the problem of acquiring a basic collection, it can make use of a tape holding that is judged by the librarians to be a basic collection. This would, of course, facilitate the ordering and cataloging of the new collection.

* * * *

CATALOGING AND TECHNICAL PROCESSING

BASIC RECORD. Much of the library system involves a basic record for a book which is reproduced with variations for various purposes. Having this basic record available in machine-readable form when the record first enters the system facilitates any further use of this record. It can be used from its entry as a request through technical processes into the final withdrawal notice.

Obtaining Record. The basic record is obtained in the following manner: if the request is a current imprint, then it would be checked against the MARC tapes. A request with a less current imprint would be matched against retrospective holdings of the center and of subscribing libraries, or possibly holding from other co-operating library networks. The result would be the catalog information about the item. With this information, catalog cards would be produced and sent via remote terminal; subsequently the master holdings list would be updated. Purchase orders would be produced and sent to the appropriate publisher or vendor. The products necessary for the technical processing of the book, such as circulation cards and book labels would probably be created at this time as well.

ADVANTAGE OF SYSTEM. The advantage of an on-line telecommunications facility between the individual library and the catalogue data base is that if a librarian directs a question to the data base, the response will be so rapid that, if necessary, the original question can be refined until a satisfactory answer is received. An example of such a question would be if a catalogue has incomplete information about a book and would want the complete bibliographic record.

* * * *

INTERLIBRARY LOANS

Each individual library will still have the responsibility of building a strong collection to serve the needs of its patrons. It will be possible, however, to concentrate on frequently used books and perhaps special areas of interest. The need will no longer exist for each library to have a copy of a book which has an extremely low circulation rate, for such a book could be obtained through Interlibrary Loan.

HOW SYSTEM MIGHT WORK. Interlibrary loans will be facilitated by union catalogs and by improved, faster methods of communication. The union catalog will make the holdings of all the libraries in the network available to the patron of one library in the system. As a result of telecommunications, when a request is made for a book which is already in use at one library, then another library which holds it can be consulted immediately. It may be some time yet before facsimile transmission (to decrease the time it takes for an interlibrary loan to reach the patron) is feasible. In the meantime, an appreciable savings may be effected by mailing the requested book directly to the patron, instead of to the requesting library. A switching center might also be desirable so that all requests do not go to one library.

Circulation records, if in machine-readable form, could also be used to aid interlibrary loan. A library interested in borrowing a book, could communicate directly with the lending library. It could examine the usage pattern of the book in question. If the book were heavily used, this might be an indication that it would not be readily available for interlibrary loan, and the inquiring library might then feel purchase of the book was warranted.

* * * *

EFFECT OF AUTOMATION ON INDIVIDUAL LIBRARIES

The above description of how acquisitions, cataloging and technical processing, and interlibrary loan could be affected by the cooperative use of the on-line -computer and telecommunications is a brief indication of the advantages of a large, integrated, library network. Other advantages would also accrue to individual libraries as an effect of automation.

ADVANTAGES LISTED. In the future, through interrogation of computer files, it will be easier to locate a book in the system by asking if it is on order, already acquired, in circulation, or at the bindery. Also, lists which are of great use to librarians can be computer maintained: lists of books requested by library users, on reserve, ordered but not received, as well as special subject bibliographies. Machine-readable circulation records would be useful in analyzing library usage. A breakdown of book usage by day, class number, or time of day could be used in order to schedule personnel and to indicate areas of heavy usage, as well as being a guide to weeding or storage of little used books.

* * * *

FUTURE RESEARCH AND DEVELOPMENT

It should be recognized that a pioneer project such as the development of state-wide technical Processing Center, will require many generations to achieve its full range of potential service. The occurrence of many generations of software and hardware should not be surprising, since it follows the pattern found in almost every successful application of computers to sophisticated intellectual and procedural problems. Recognizing the inevitability of change and accompanying progress and improvement of technique and service, any development plan for the center must make adequate allowance for ongoing research and for the committment of staff and resources to support and control continuing development.

It is therefore appropriate now to begin to identify the research issues which will play a central role in the Processing Center's technical development.

AUTOMATIC FIELD RECOGNITION (AFR). This topic will be discussed fully in Volume 1, chapter Conversion (CON). Briefly it is an experimental technique designed to utilize computer programs to recognize MARC II level bibliographic data elements. The technique should have high economic pay-off by replacing a significant portion of the input encoding currently performed by bibliographic editors. Further, differently formatted data bases may be converted to a standard MARC II format via computer-driven AFR routines. The technique is hopefully broad based and may also be applied to machine-form serial articles to construct index and retrieval topic files.

INFORMATION CENTER DEVELOPMENT. The basic question here is to guide the evolution of a Processing Center into an effective Technical Information Center, as envisioned by the State Technical Services Act of 1965. The key to such evolution is expanded research into areas of bibliographic subject access. In order to achieve that goal, the Center should support research in the following technical areas:

a. File organization for bibliographic systems, both off-line and on-line.

b. Subject access to monograph material, both conventional and innovative.

c. Subject access to serials data, including development of a microform retrieval system.

The research if possible should be integrated with first-generation development efforts, particularly for fostering experimentation with large existing data bases.

NETWORK EVALUATION. The most important context for the Processing Center is its central position in a network of subscribing libraries. Thus with respect to both economics and effective service, there is a serious need to provide adequate self-evaluation methods and tools within the system. These methods should be drawn from existing Operations Research techniques and should be designed into the system at an early period. Basic measurements should be made of the effectiveness of the system (both at the center and at its service points), budget and workload forecasting, communications links, etc.

TRAINING. The general approach outlined above indicates the need to recruit, train and educate a permanent technical staff for the Processing Center. Further there is a need to provide training for personnel in participating network libraries. The training should be tailored for three types of staff members: technical (programmers, analysts), operational (bibliographic editors), and administrators (network librarians). The following topics should be considered:

a. The acquisition of a special purpose high-order programming language, designed for text processing applications. The running time of programs written in such a language should approach assembly-coded programs.

b. The development of a full set of computer-assisted instruction (CAI) courses in the following areas:

    Programming language
    Bibliographic editing
    MARC II
    Processing Center file structures
    Processing Center philosophy and design

IN SUMMARY, we feel that a development plan for the Processing Center should allocate resources to research and training as well as first-generation software.

FORSEEABLE PROBLEMS

The concept of a library network is not without its problems. Three come to mind: 1) the availability of the MARC tapes, which contain the necessary bibliographical information; 2) standarization of records; 3) implementation of the system. An elaboration of the three problems follows:

1) The centralization of cataloging lies to a great extent on the availability of the LC MARC tapes. As with the LC proof slips, it is possible that a book will be received by the library before the bibliographical information on the MARC tapes is received. Hopefully, this problem is one of transition, and LC will do something about this lag. The titles of the books, meanwhile, could be sparsely catalogued and entered into the system. When the MARC tapes arrive, final cataloging could be done automatically, and in this waiting time period the skeletal records could be used for circulation or even for book ordering.

2) A second problem is standardization. The more standard the records are, the more easily they can be handled by the computer. However, it is hoped that any computer system will be flexible enough to accept variations which are considered essential by member libraries.

3) A system design, carefully researched, flowcharted and documented, looks good on paper, and the idea of cooperation and necessary standardization is not too difficult to agree upon in principle. Herein arises the third problem: implementation. Now is not too soon to begin preparation for this last stage of system design by giving some thought to the role of the librarian in a library network. Seminars and workshops in systems analysis and the principles of computer processing would enable librarians to evaluate how best to use these new services. This training would enable them to view library functions in terms of their network potentials and improve communication between the librarian and the system designer. It would enable the librarian to play a greater role in the design of a new library system.

* * * *

CONCLUSION

A library network on a statewide scale, which is compatible with nationwide networks, is a beneficial way of sharing both the costs of an automated system as well as the trained people - librarians and system analysts - capable of designing a useful system. Potentially, it is an effective way of utilizing the advantage of computer and telecommunication technology to eliminate unnecessary duplication and to make library resources available to all users.

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SYSTEM DESCRIPTION

Overview of system files and
system logic for all operating functions

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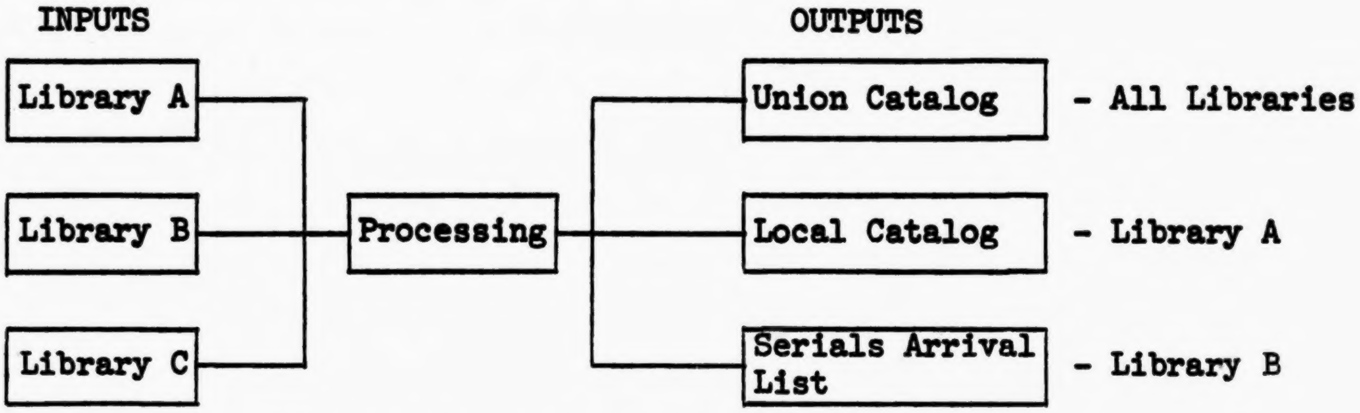
INTRODUCTION

The preceding description of the scope of the project may be taken as the sum of goals and constraints within which the technical design was developed. We have translated all the generalized statements embodied in the contract and in previous studies of the California State Library Processing Center into a highly proceduralized system employing people (librarians, editors, keypunchers, clerks) and machines (computers, reprographic equipment, keyboards, numbering devices). We have incorporated a very high degree of control so that, at any point, there is an audit trail for a given record or set of records; this was felt to be crucial in terms of the high volumes of data units involved. In addition we have allowed what we consider to be a meaningful variety of options and alternatives at many points in the system. This is to allow for incorporating feedback derived from operational experience, and also to allow the participating libraries to retain the maximum degrees of freedom and flexibility possible within an automated processing system.

The system can best be described in terms of the multiplicity of levels on which it must operate. The scope of the system ranges from the level of characters (how to keyboard accent marks) to the level of book catalog page layout (how many columns per page, how many characters per column). Such variations pose a problem in system description in that it is difficult to achieve a consistent level of detail in developing the connections among various processing functions. We will try to overcome this difficulty by re-arranging slightly the sequence of description, and by blocking out the same functions at different levels of detail.

On the simplest level, the system is of simple input - processing - output type. Further, the input and output cycles are asynchronous and somewhat independent with respect to each other, which requires that the processing "black box" include a strong file organization and file maintenance procedure. This requirement is re-enforced by the notion that the system inputs arrive from many different sources and that outputs are produced for different destinations.



The file maintenance function must be able to track data from source to destination, where necessary. It is logical then in our description to begin in the middle of things, that is with a presentation of file organization and file structures, since these in a sense control many other system functions. The input and output sides of the system will be described subsequently.

SYSTEM FILE ORGANIZATION AND STRUCTURE

The central functions of the CSL-PC machine file organization are as follows:

1. Storage of a single central bibliographic record representing a unique bibliographic entity, i.e. book title. The sources of this central master record may be current MARC tapes distributed by L.C., retrospective conversion of a network library, or current acquisitions of a network library.

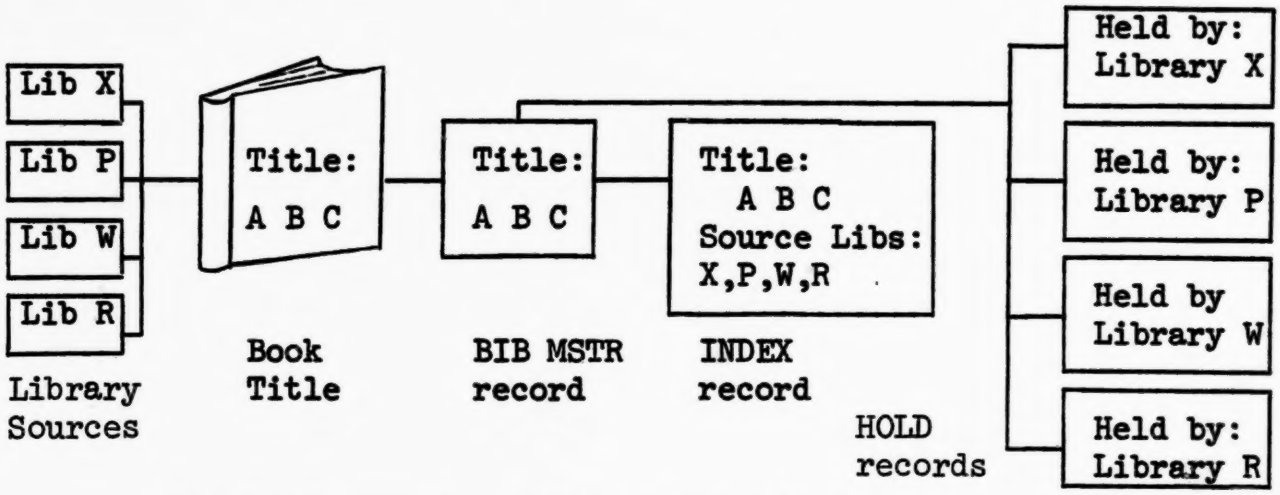
2. Location and identification of duplicate bibliographic records, as they enter the file. This is crucial in preserving the isomorphism between master file records and book titles.

3. Representation of duplicated holdings among network libraries, including the preservation of significant local variations.

These three functions are mirrored directly in the three major file structures of the CSL-PC system: named simply Bibliographic Master File (BIB MSTR), Title/Author Index File (INDEX), and Holdings File (HOLD).

SYS Fig. 1: PROCESSING CENTER FILES

CSL-PC FILES:	MNEMONIC TAGS:	RECORDS:
Bibliographic Master File	(BIB MSTR)	Book Title Descriptions
Holdings File	(HOLD)	Library Holdings
Title/Author Index File	(INDEX)	Condensed Title Descriptions

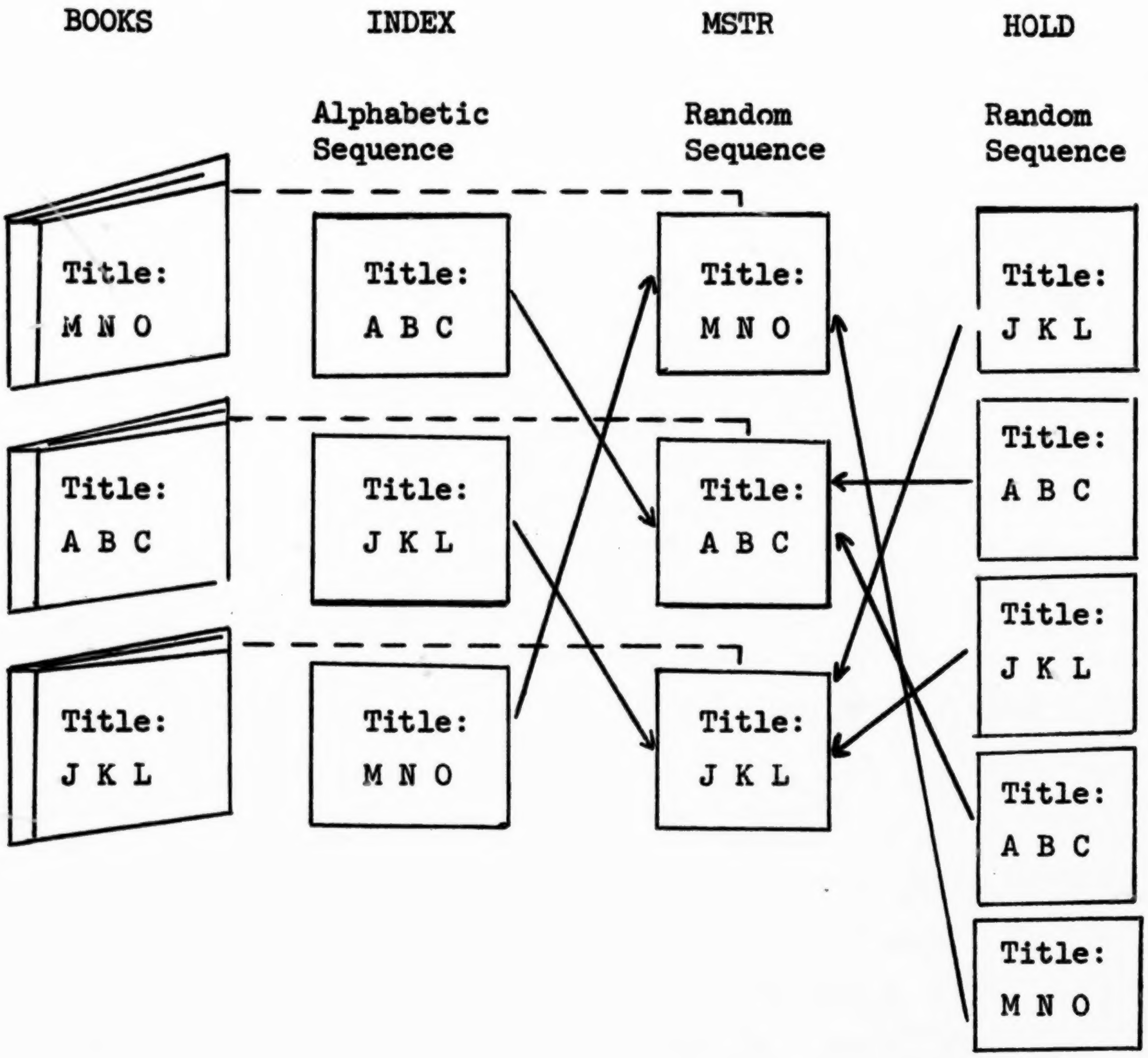

Lib X
Lib P
Lib W
Lib R
Library Sources
Title: A B C
Book Title
Title: A B C
BIB MSTR record
Title: A B C Source Libs: X,P,W,R
INDEX record
HOLD records
Held by: Library X
Held by: Library P
Held by Library W
Held by: Library R

BIB MSTR records contain the basic data elements which describe each unique monograph book title in the system. (Different editions of the same book are considered different titles.) The data element set is defined by the MARC II standards. HOLD records indicate in which network library collections the book title is found; HOLD records also describe the holding library's call number and subject access points (tracings). INDEX records are an abbreviated and condensed version of BIB MSTR records, reduced to about one-tenth the number of characters, and are used chiefly for searching for book title duplications.

The need for an alphabetically sequenced access (INDEX) file derives from the filing and storage characteristics of the BIB MSTR and HOLD files. Both are quite large and are randomly sequenced to avoid excessive updating or interfiling operations. When a new record is added to either file, it is appended to the end of the file without regard to any alphabetic sequencing key. The "order" of the files is then simply an accession number order, represented by a BIB MSTR record ID number (BRIDNO) and HOLD record ID number (HRIDNO). The function of the INDEX file is to create an alphabetically ordered cross reference to the BIB MSTR file. The INDEX file can be searched by alphabetically ordered transaction files of new acquisitions/cataloging conversions.

To repeat: the BIB MSTR and HOLD files are unordered files; adding a new record to BIB MSTR or HOLD consists of appending that record to the end of the file. The INDEX file is alphabetically ordered (on title and author); adding a new record to INDEX consists of interfiling the new record into its proper alphabetic slot. These relationships are shown in the following schematic:

SYS Fig. 2: FILE SCHEMATIC


BOOKS
INDEX
MSTR
HOLD
Alphabetic Sequence
Random Sequence
Random Sequence
Title: M N O
Title: A B C
Title: J K L
Title: A B C
Title: J K L
Title: M N O
Title: M N O
Title: A B C
Title: J K L
Title: J K L
Title: A B C
Title: J K L
Title: A B C
Title: M N O

The directional lines in this diagram are pointers carried in each record in the form of the Record ID numbers of the file being pointed to. Thus both INDEX and HOLD records point to a BIB MSTR record by means of containing the BRIDNO of that record. The following example represents the data elements of the three files (SYS Fig. 3).

SYS Fig. 3: FILE STRUCTURE EXAMPLE

BIB MSTR FILE		INDEX FILE			HOLD FILE			
Title	BRIDNO	Title	BRIDNO	Library Codes	Title	HRIDNO	BRIDNO	Library Codes
MNO	001	ABC	002	TZW	MNO	001	001	Z
ABC	002	DEF	004	W	ABC	002	002	T
JKL	003	JKL	003	TWZ	ABC	003	002	Z
DEF	004	MNO	001	ZT	MNO	004	001	T
					JKL	005	003	T
					JKL	006	003	W
					ABC	007	002	W
					JKL	008	003	Z
					DEF	009	004	W

Note that the HOLD file is a complete record of holdings data. Even if a title is held by only one library (such as the title DEF in the example above), there is one INDEX and a HOLD record for that title (HRIDNO=009). It should also be noted that HOLD records also contain local call number and subject tracings to indicate local variation.

The table above also shows the linkages of the records of all three files utilizing pointers in the form of BRIDNOs. The ability to sort all three files into parallel sequences derives from sorting INDEX and HOLD on BRIDNO (BIB MSTR is already in BRIDNO order). This ability is utilized in retrieval operations in the construction of separate and union book catalogs.

In summary, interfiling and re-arrangement of records and information is performed on only one file: INDEX. The other files simply grow serially and randomly and do not require any resorting or complex processing during file maintenance operations. As previously indicated, the file structure is tape oriented and does not depend on disk storage.

INTRODUCTION TO DATA INPUT SUBSYSTEMS

The generic term data input is used to describe the five basic procedural modules used to create and maintain the system files described in the previous section. The five basic procedures are:

1. Capture data - secure copy of catalog card
2. Encode record - add MARC II bibliographic tags and codes
3. Keyboard record - transform coding sheet to machine-readable form
4. Convert record - translate tags, codes and data to MARC II format
5. Construct files - build Master, Index and Holdings files

Briefly, there are three major conditions under which input can take place in the CSL-PC system:

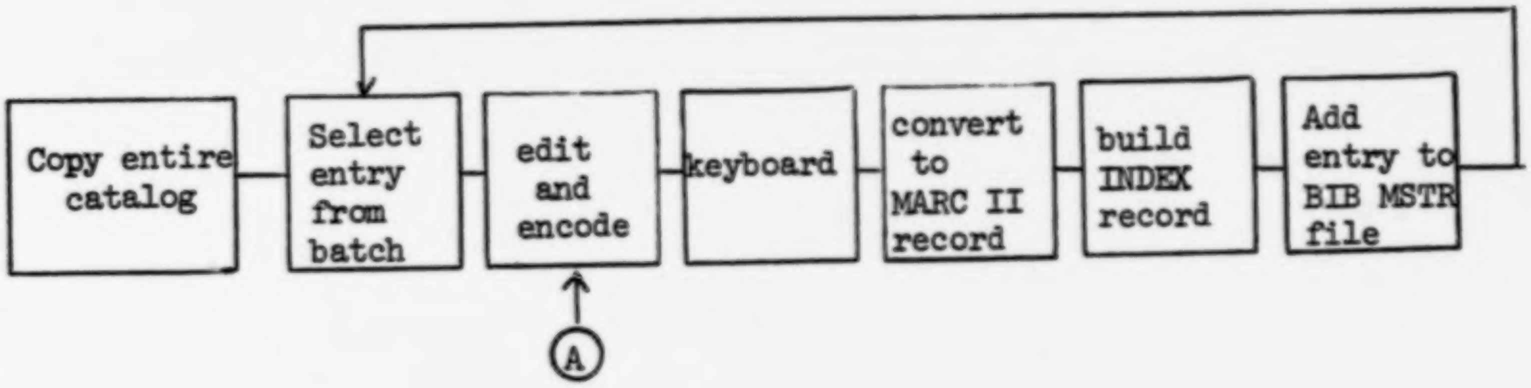
1. Conversion of the first library in the system
2. Conversion of subsequent libraries joining the system
3. Interim and post-conversion reporting of current acquisitions/ cataloging (all libraries).

It is the first condition which exercises all the input functions. The first library's catalog must be reproduced; each record encoded, keyed and converted; and finally each entry will constitute a new record in the BIB MSTR, and INDEX and HOLD files. For the conversion of subsequent libraries (assuming some time has elapsed since the start-up of the first conversion) all the catalog entries must be copied; however encoding and keyboarding may be bypassed if the entry already exists in the Master File; and the volume of additions to the BIB MSTR and INDEX files will be low, while there should be many new records added to the HOLD file (assuming a normal degree of collection overlap on the order of 50%-70%).

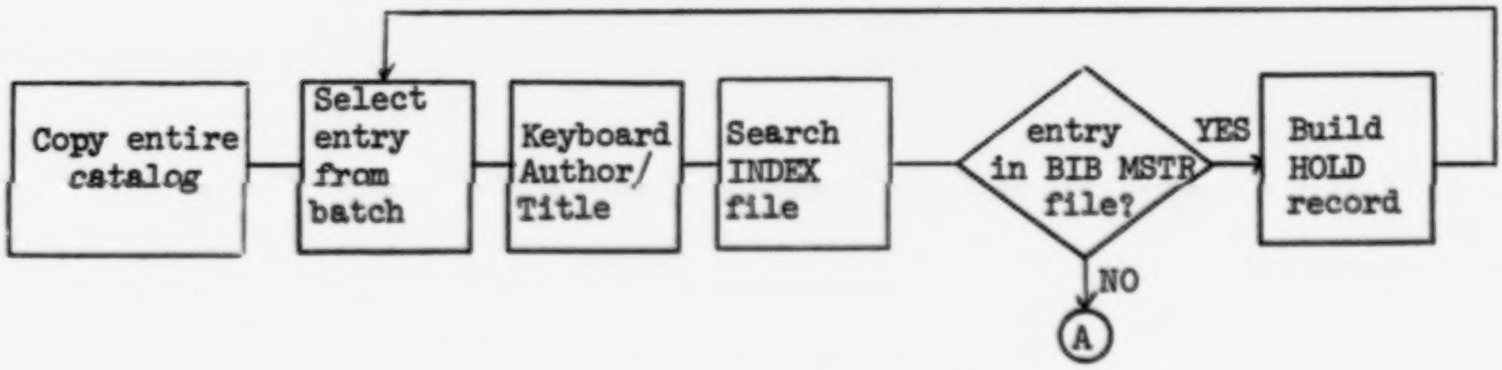
The post-conversion period of acquisitions/cataloging reporting is the least complex of the three possible conditions. For one thing, securing a copy of the data is a lower volume operation and consists of an extra copy of the catalog card, LC proof slip or acquisitions order. Encoding, keyboarding and conversion are bypassed in favor of searching the MARC section of the Master File. If a matching record is not found, then a waiting period, coupled possibly with a notification to L.C., may follow in the anticipation of receiving the record on a future MARC tape. As a last resort, the encoding-keyboarding-conversion cycle may be required. A schematic, detailing the interactions of input modules and input conditions, is found in Sys Fig. 4.

SYS Fig. 4: SCHEMATIC OF INPUT FUNCTIONS AND CONDITIONS

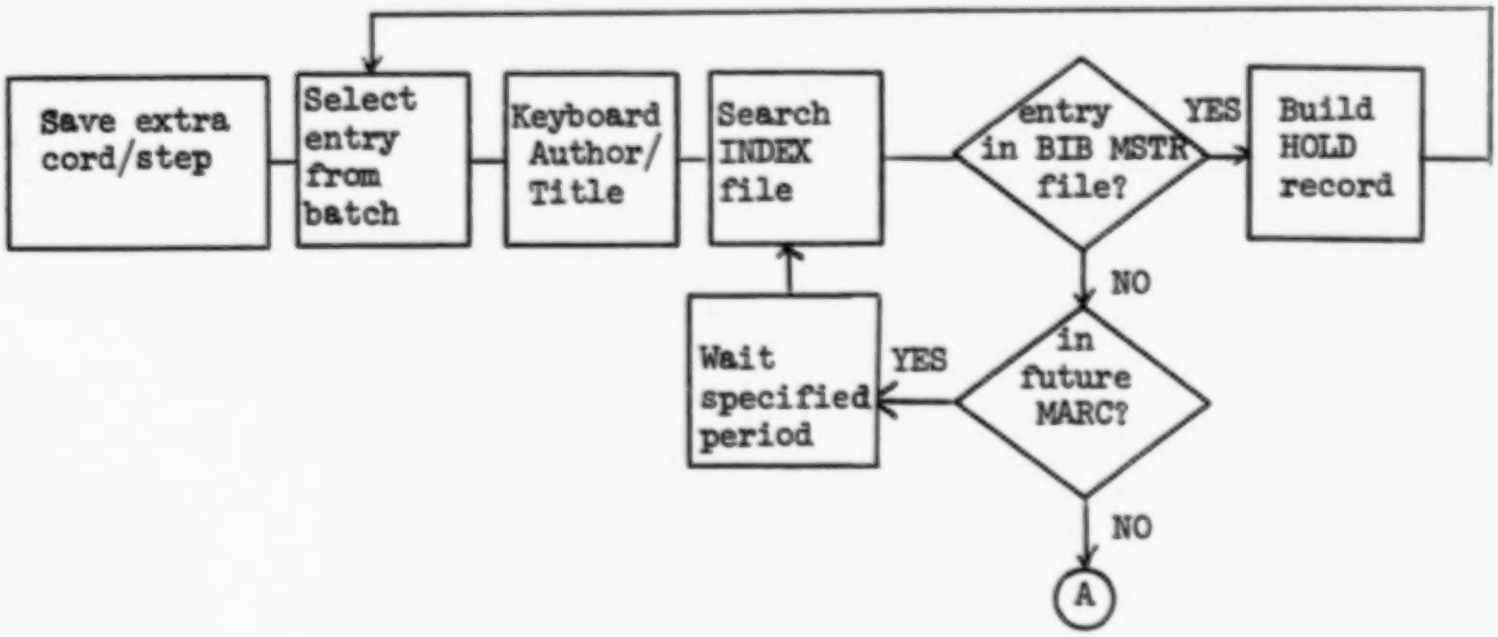
CONVERSION OF FIRST LIBRARY:


Copy entire catalog
Select entry from batch
edit and encode
keyboard
convert to MARC II record
build INDEX record
Add entry to BIB MSTR file
A

CONVERSION OF SUBSEQUENT LIBRARIES:


Copy entire catalog
Select entry from batch
Keyboard Author/ Title
Search INDEX file
entry in BIB MSTR file?
YES
Build HOLD record
NO
A

INTERIM AND POST-CONVERSION (ALL LIBRARIES):


Save extra cord/step
Select entry from batch
Keyboard Author/ Title
Search INDEX file
entry in BIB MSTR file?
YES
Build HOLD record
NO
in future MARC?
YES
Wait specified period
NO
A

PRODUCTION AND CONTROL (see Vol. 1, PROD chapter)

The chief problems that this first input function deals with are the production and control aspects of retrospective conversion of a large catalog. The control problems are akin to those found in any inventory operation where there are many individual records to track and process. Analogies would be converting stockholder files, insurance files, DMV files, etc., with one major difference: library catalog records carry no sequential serial number as basic identification. This record numbering technique provides a basic control on the procedure in that it allows for checking the completeness of the conversion.

However even if there were already an accession number on catalog cards (as there may be in some libraries), there are still two very serious problems encountered in the conversion operation. First, the editing is time-consuming, and libraries cannot afford to be without the use of the catalog cards for the entire process. Consequently, the editors must work with a copy of the catalog card. The need for a copy is reinforced by the need for coding 'template' to guide bibliographic editing/encoding. The catalog card should be reproduced directly onto the pre-printed template. (SYS Fig. 5 is an example of the reproduction utilizing pre-printed reproduction stock in the Xerox 720.) The copy procedure itself must also be fast enough to return the cards to the main catalog within a reasonable period of time.

A second and equally serious problem is that only main entries are to be considered in the conversion process. The selection of main entries should occur before the copy process, to avoid the cost of reproducing cards which will ultimately be discarded. We have as yet found no copy method cheap enough to allow main entry selection to occur after copying. This means that main entries will have to be selected out of dictionary or author/title catalogs, copied, and refiled back into their original positions. Here is where sequential control numbers can be a powerful tool. If sequential control numbers are imprinted on every card in the catalog (by means of a numbering/imprinting machine), this number could then be used for controlling the main entry refiling. The operational sequence would be:

1. Number entire catalog
2. Select main entries
3. Copy main entries
4. Refile main entries

The final refiling step however would be a totally clerical process controlled by interfiling sequential control numbers, rather than requiring filing alphabetically by bibliographic conventions.

There are two other similar problems which come up in steps 2 and 3. These have to do with catalog data on extension cards and on the verso of a catalog card (which may itself be a single card or part of an extension card set). SYS Figure 6 gives some statistics on these problems, and shows that their incidence is high enough (24%) to warrant developing a procedural solution, again using a control numbering device. The solution consists simply of re-numbering all the selected main entry cards as one continuous set, on both the recto and the verso of the card (done in two separate passes). All the recto's are then copied. Verso's (with data) are selected out of the main entry cards (just as main entries were selected out of the total catalog) and copied. The verso cards are then refiled back into the main entry cards using the main entry serial number as a control. The verso copies are then associated with the proper recto's, again by use of the main entry serial number. Extension sets are not a serious problem since they always continue a string of sequential serial numbers.

A schematic of this entire process is outlined in SYS Figure 7. This eight step sequence presents a method for production and control which is general enough to be applied to any library which intends to convert its holdings to machine form preparatory to joining the CSL-PC network. The expense and detail are well justified, we feel, by the positive control and verification made possible. Undertaking such an extensive clerical operation with appropriate unit controls should provide the operational staff with the means for assuming responsibility for complete coverage and complete catalog security.

SYS Figure 7-A represents three data cards with control numbers imprinted on them.

CSL PROCESSING CENTER
INPUT CODING SHEET:
MONOGRAPHS

SYS Fig. 5

THE CATALOG CARD WILL BE REPRODUCED
IN THIS SPACE.

● Date 1	Date 2

● DATE TYPE:

bc ____ 2 dates: 2d is ©
bm ____ multiple date span
bn ____ date not known
bq ____ digits missing
br ____ prev. published

ca ____ LC call no. is bracketed

CATALOG SOURCE:

ea ____ NAL
eb ____ NLM
ec ____ Coop. Cat.
ed ____ NUC
ee ____ other
ef ____ orig. cat.

FORM OF REPRODUCTION:

ga ____ microfilm
gb ____ microfiche
gc ____ micro-opaque
gd ____ large-print

CONTENT FORM:

ha ____ abstracts
hb ____ bibliographies
hc ____ catalogs
hd ____ dictionaries
he ____ encyclopedias
hh ____ hndbks./manuals
hi ____ indexes
hp ____ progrmmd. texts
hr ____ directories
hs ____ statistics
hy ____ yearbooks

TYPE OF WORK:

ia ____ juvenile
ib ____ fiction
ic ____ autobiography
id ____ biog.-indiv.
ie ____ biog.-coll.

● TYPE OF ADDED ENTRY:

Series traced same as note	ja									
Series traced differently from note	jr									
Subject headings and subdivisions	jm									
Non-subject/non-series tracings	jq									

GOVERNMENT PUBLICATION:

ka ____ U.S. Federal
kb ____ Cal State
kc ____ Cal Co./Muni.
kd ____ international
ke ____ other govts.

ma ____ conference pub.

na ____ non-keyable data

qa ____ cancel title added entry same as title

ra ____ card lacks title traced same as short title

sa ____________ % lang.

ta ____ translation

MAIN ENTRY HEADING:

● ua ☐ type of main entry
ub ____ m.e. is subject
uc ____ m.e. is publisher
ud ____ m.e. repeated in body

HOLDINGS:

	System ●	+Br ●	Total Copies Here
● wa			
wb			
wc			
wd			

● = must always be filled in
• = must frequently be filled in

● EDITOR

Mo.	Day	Yr.	Minutes

KEYPUNCHER

Mo.	Day	Yr.	Minutes

SYS Fig. 6: DISTRIBUTION OF CSL RECTOS, EXTENSIONS, and VERSOS

- based on itital sample.
- stated three ways: relative to titles, cards, and card-images.

756 Titles   831 Cards (=1.0992/title)   993 Card-Images (=1.3135/title)

	Recto		Recto + Extension		Recto+Extension+Verso	
Type of Cards	R	% of titles	(+ E) = R + E	% of cards	(+ V)=R + E +V	% of card-images
Extension	43	5.69%	(+75) = 118	14.20%	(+13) = 131	13.19%
Non-extension	713	94.31	(+ 0) = 713	85.80	(+149) = 862	86.81
Verso	162	21.43%	(+25) = 187	22.50%	(+162) = 349	35.15%
Non-verso	594	78.57	(+ 0) = 644	77.50	(+ 0) = 644	64.85
Overlap of verso and extension	13	1.72%	(+25) = 38	4.57%	(+ 13) = 51	5.14%

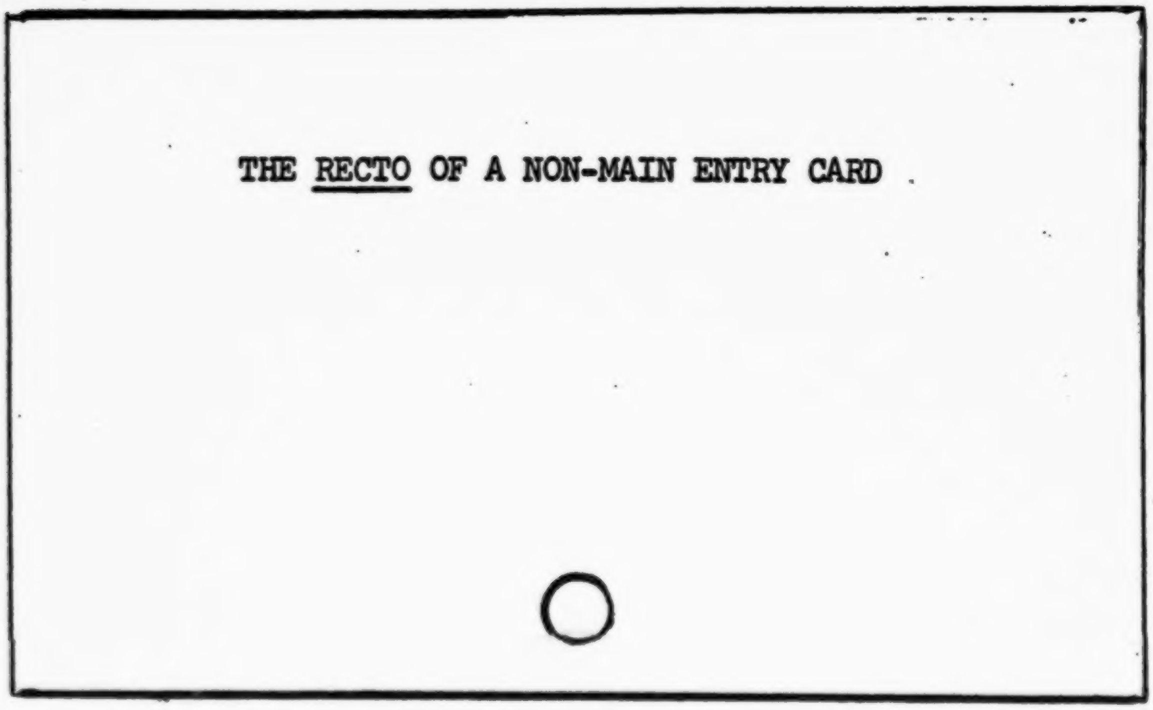
Detail Patterns of Cards	R	% of titles	(+ E) = R + E	% of cards	(+ V) = R+E+V	% of card-images
Recto only	564	74.60%	(+ 0) = 564	67.87%	(+ 0) = 564	56.79%
Recto-Extension	30	3.97	(+50) = 80	9.63	(+ 0) = 80	8.06
Recto-Verso-Extension	11	1.46	(+23) = 34	4.09	(+ 11) = 45	4.53
Recto-Extension-Verso	2	0.26	(+ 2) = 4	0.48	(+ 2) = 6	0.61
Recto-Verso	149	19.71	(+ 0) = 149	17.93	(+149) = 298	30.01

SYS Fig. 7: PRODUCTION AND CONTROL SEQUENCE

DESCRIPTION OF STEPS	RESULT	METHOD
1. Number all cards (on verso)	Refiling serial numbers assigned	Mechanical number-imprint device
2. Select main entries	Main entry file to be converted	Clerical process
3. Number all main entries recto and verso	Main entry serial numbers assigned	Mechanical number-imprint device
4. Copy main entry recto	Copy of card to be used for editorial encoding	Reproduces card plus editing template
5. Select main entry verso cards	Retrieval of data on card verso's	Clerical process
6. Copy main entry verso	Copies to be used for editing-encoding	Reproduce card without template
7. Refile all main entries including verso file	Resort catalog	Use refiling serial number assigned in step 1
8. Interfile copies of main entry verso and rectos	Combined recto-verso copies	Use main entry serial number assigned in step 3

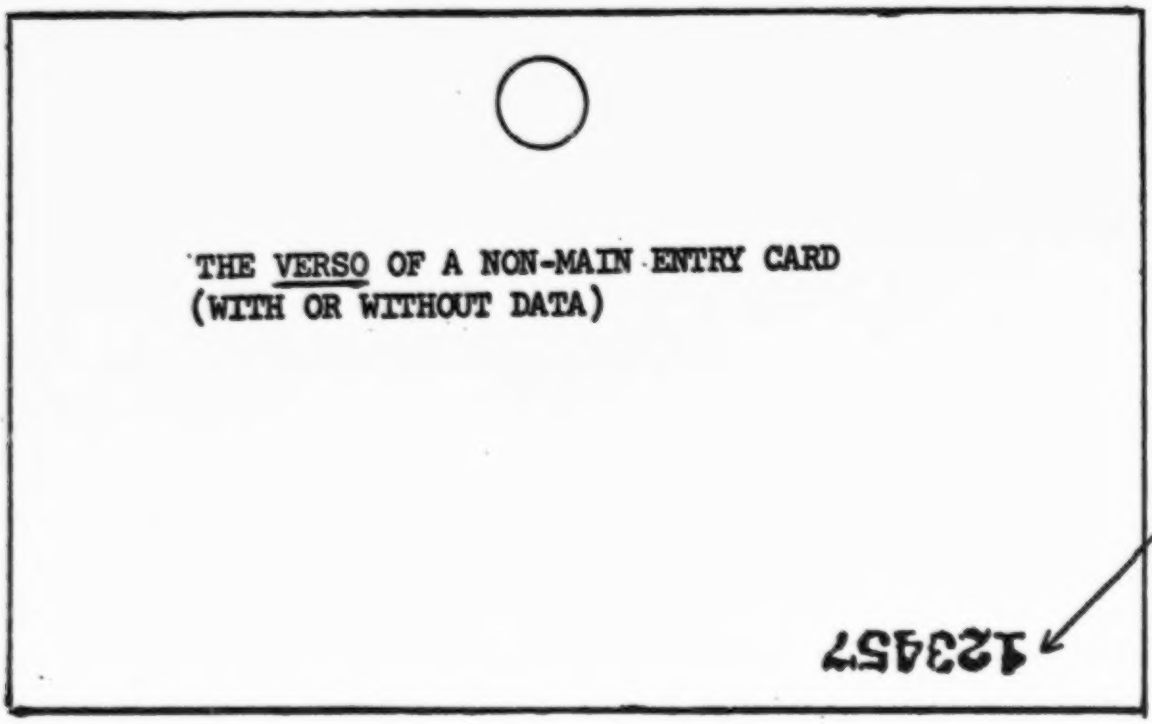
SYS FIG. 7-A : THREE CARDS WITH CONTROL NUMBERS

CARD 1: NON-MAIN ENTRY RECTO


THE RECTO OF A NON-MAIN ENTRY CARD

(Note that this card has no control number)

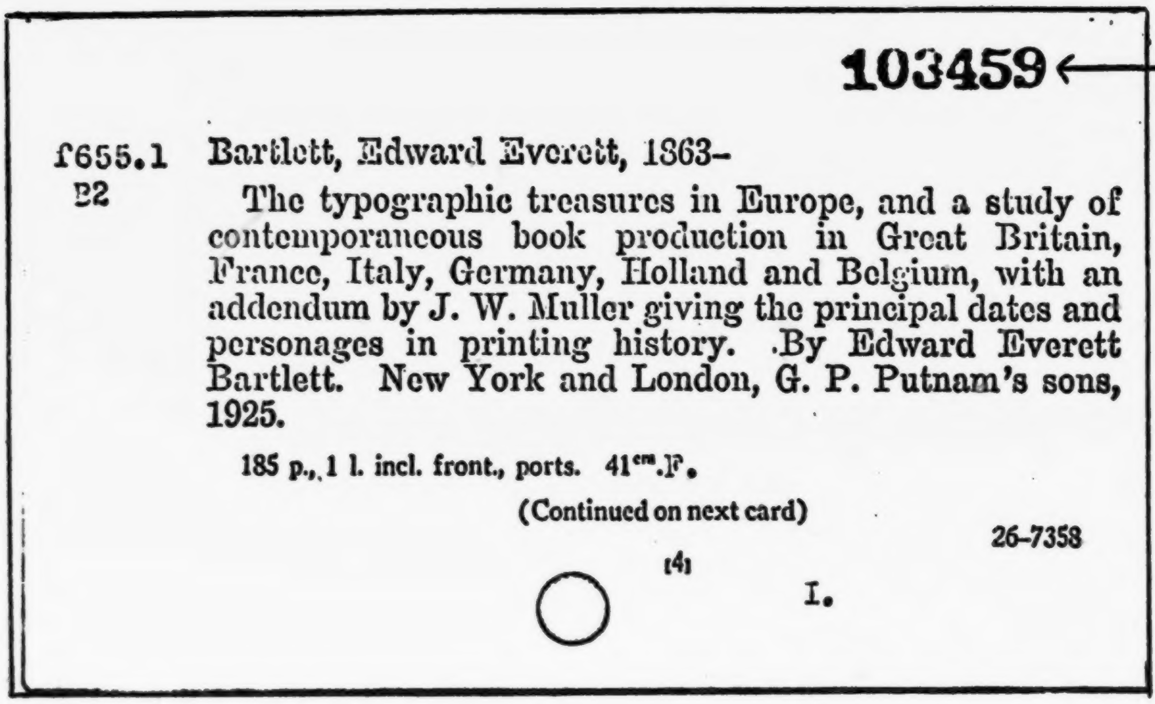
VERSO OF CARD 1


THE VERSO OF A NON-MAIN ENTRY CARD
(WITH OR WITHOUT DATA)
1234567

Card No. Assigned to ALL CARDS in File Drawer(s)

SYS FIG. 7-A (CONT.)

CARD 2: MAIN ENTRY CARD WITH CONTINUATION (see card 3)



103459

f655.1
B2

Bartlett, Edward Everett, 1863-

The typographic treasures in Europe, and a study of contemporaneous book production in Great Britain, France, Italy, Germany, Holland and Belgium, with an addendum by J. W. Muller giving the principal dates and personages in printing history. By Edward Everett Bartlett. New York and London, G. P. Putnam's sons, 1925.

185 p., 1 l. incl. front., ports. 41^{cm}. F.

(Continued on next card)

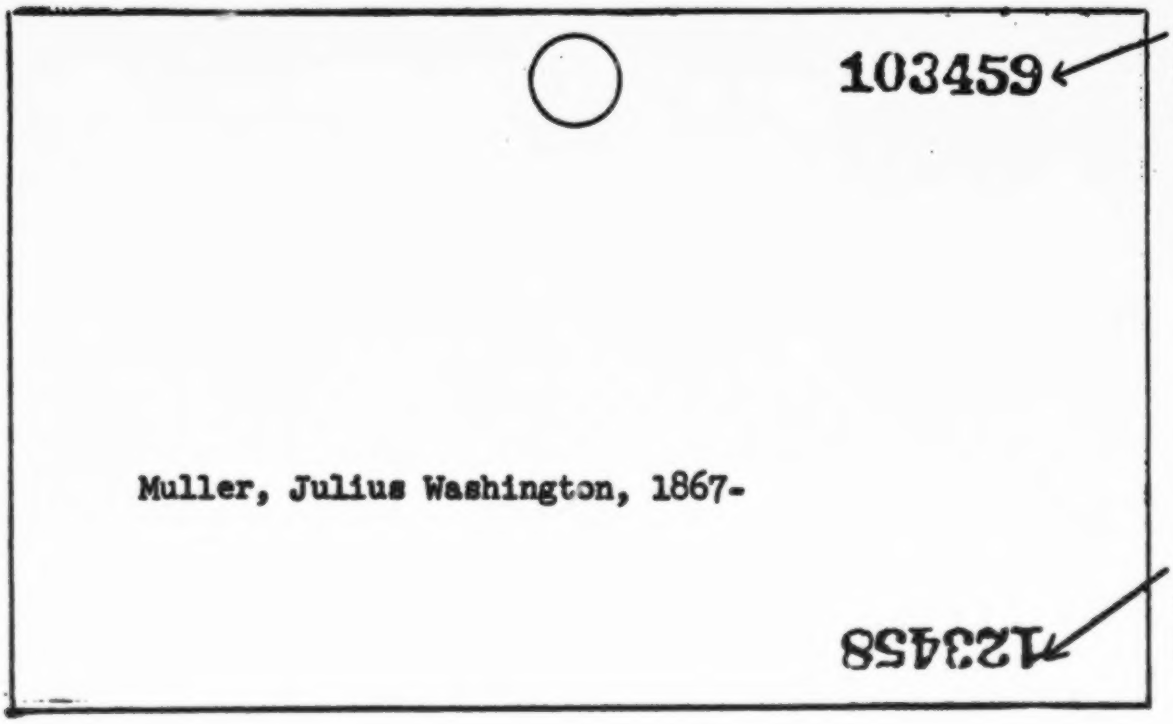
26-7358

[4]

I.

Card No. Assigned to all MAIN ENTRY Cards

VERSO OF CARD 2



103459

Muller, Julius Washington, 1867-

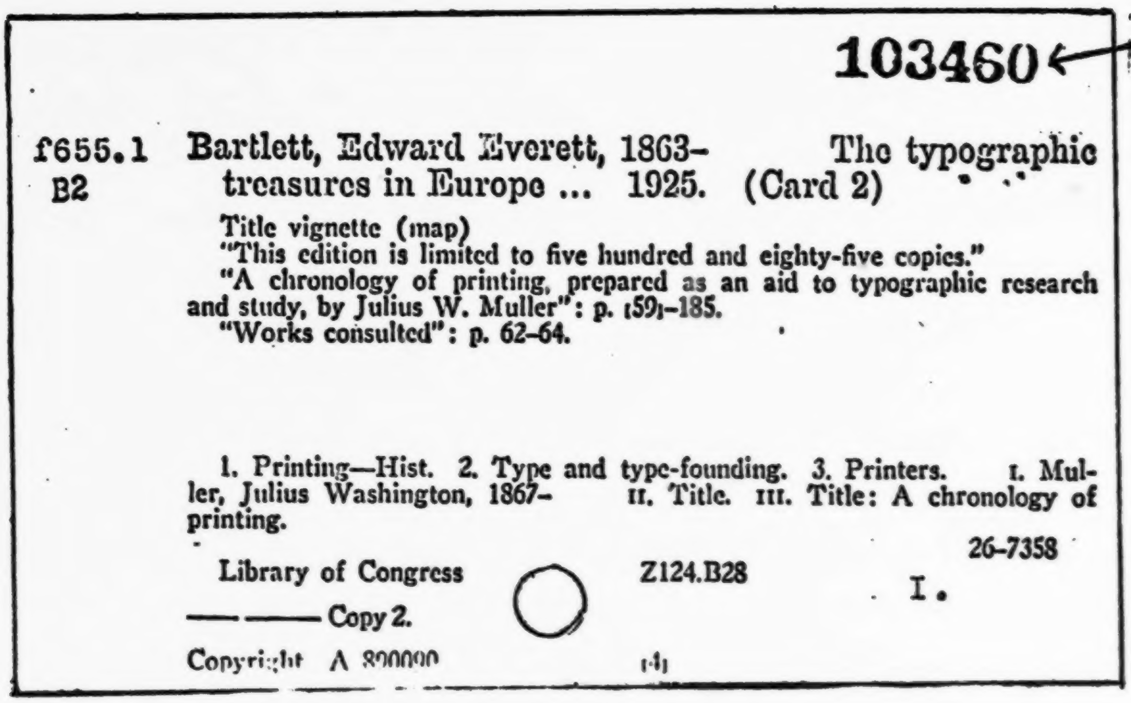
123458

Card No. Assigned to all MAIN ENTRY Cards

Card No. Assigned to ALL CARDS in File Drawer(s)

SYS FIG. 7-A (CONT.)

CARD 3: CONTINUATION OF CARD 2



103460

f655.1
B2

Bartlett, Edward Everett, 1863- The typographic treasures in Europe ... 1925. (Card 2)

Title vignette (map)

"This edition is limited to five hundred and eighty-five copies."

"A chronology of printing, prepared as an aid to typographic research and study, by Julius W. Muller": p. [59]-185.

"Works consulted": p. 62-64.

1. Printing—Hist. 2. Type and type-founding. 3. Printers. I. Muller, Julius Washington, 1867- II. Title. III. Title: A chronology of printing.

26-7358

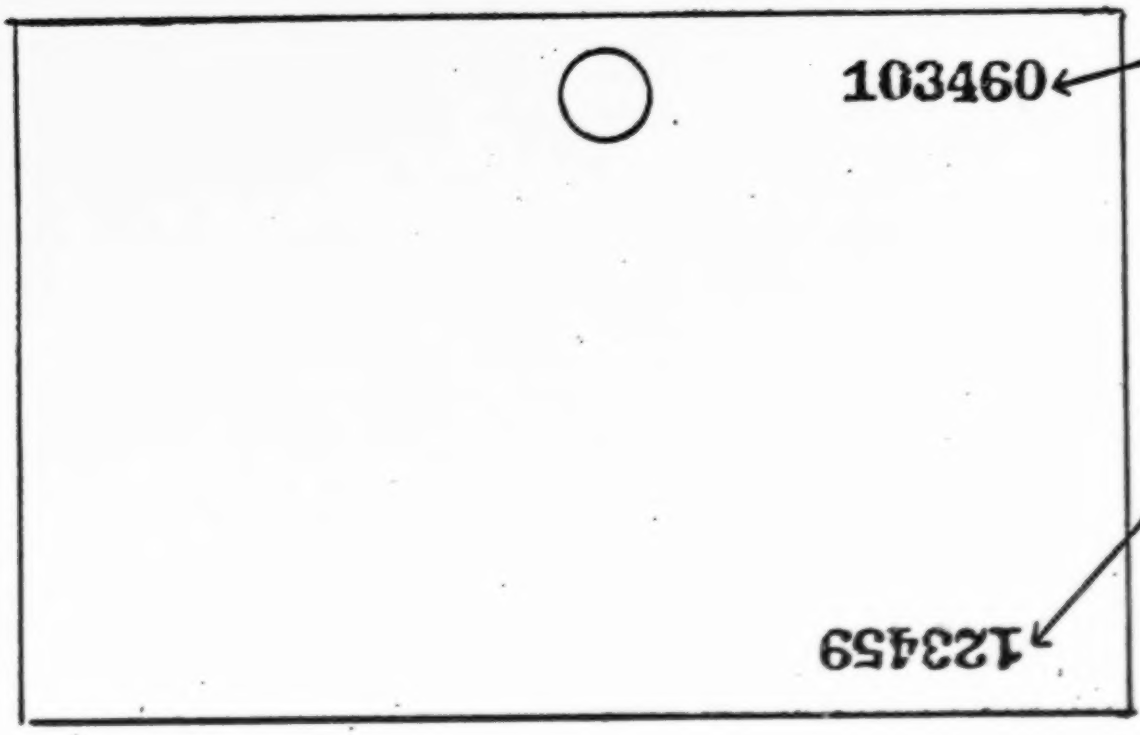
Library of Congress Z124.B28 I.

——— Copy 2.

Copyright A 890000 [4]

Card No. Assigned to All MAIN ENTRY Cards

VERSO OF CARD 3



103460

123459

Card No. Assigned to all MAIN ENTRY Cards

Card No. Assigned to ALL CARDS in File Drawer(s)

BIBLIOGRAPHIC EDITING (see Vol. 3: CODE)

At this point in the development of machine form library files, there is a considerable experience with the basic procedure of transforming a catalog card into its computer equivalent. The most widely used method of transformation is to write in bibliographic function codes and tags at appropriate points on the card itself. Depending on the level of complexity of the tagging scheme, the encoding may be performed by typists, clerks, undergraduates, library school students or experienced catalogers. The assigned codes are then keyed, along with the text of the card, and converted by computer program to a formatted machine record which translates the bibliographic function codes into data element identifiers. The machine record is normally reviewed and proofread for typographic and bibliographic accuracy; it is corrected if necessary, and certified as valid.

Thus editing operates at two points in the system flow: original code assignment (prior to keying), and data verification (after code conversion). Proofreading need not be performed by the same person who did the original encoding.

In the CSL-PC system the complexity of bibliographic data definitions is very high, being matched to the MARC II standard of data element definition. MARC II is basically an attempt to make explicit the vast majority of information implicit in catalog data. For example, in the case of main entry, the following explicit distinctions are required:

Type of Entry	Form of Heading	Data Elements
1. PERSONAL AUTHOR	Single Surname Forename Multiple Surname Family Name	Name Numeration Title (Honorific) Date Relator (e.g., 'ed') Form Subheading
2. CORPORATE AUTHOR	Place + Name Name (direct order)	Name Subordinate Units Relator Form Subheading

Type of Entry	Form of Heading	Data Elements
3. CONFERENCE NAME	Surname (inverted) Place + Name Name (direct order)	Name Number Place Date Subordinate Unit Form Subheading
4. UNIFORM TITLE	--	Uniform Title Other Title
5. TITLE MAIN ENTRY	--	Short Title Remainder of Title T.P. Transcription

In addition, it must be determined whether: 1) the main entry is also the subject of the work (as in an Autobiography); 2) the main entry is also the publisher of the work; 3) the main entry is repeated in the body of the card.

The main entry example above represents only one item on the catalog card. The complexity of this one item should make it clear that the level of staffing required for this task is well above the clerical personnel utilized for simpler tagging operations. ILR has conducted successful experiments in MARC II encoding (using a data base of 10,000 catalog records), and we have found that library school students who have had cataloging courses are competent to perform the level of encoding required. Based on our experience with these records, we therefore recommend that library school students supervised by a trained cataloger be utilized by the CSL-PC. We have developed a highly refined and efficient set of coding conventions to accomplish this work, and have written an explicit Coding Manual to support the training and reference requirements of the bibliographic editing staff. This material is found in Volume 3 of this report. A discussion of the editor's function is found in Volume 2, Processing Center Organization (PC-ORG).

The encoding is done by writing some code symbols on the card itself and by supplying additional descriptors from a worksheet (or, as we call it, a coding sheet). The catalog card and the pre-printed coding sheet are reproduced together on a single 8 1/2" x 11" sheet, as shown in SYS Fig. 5. The information on the card (call number, main entry, collation, etc.) is IDENTIFIED on the card (call number, main entry, by writing certain assigned codes (such as the slash and percent sign) on the card itself. The information on the card is further DESCRIBED by checking off or filling in the pertinent items on the coding sheet (such as the language of the work or the type of date).

SYS Fig. 8 shows a completed coding sheet with both the identification codes (those written in on the card) and the description codes (those checked off from the pre-printed form) assigned. SYS Fig. 9 shows a similar document used by the Library of Congress to construct MARC I records (see Library Resources and Technical Services, v. 12, no. 3, Summer 1968, p. 311-319).

The coding sheet is the basic document which comes from the production and control sub-system; after encoding it is then sent on to be punched. The keypunched image of the document is then passed on to the convert system to be translated into MARC II records. There should be, and is, a control link across these four systems (production, encoding, keypunching and conversion), and that is the main entry serial number assigned in step 3 of the production cycle. The serial number will serve as an audit trail for tracking the basic document across these four input cycles (including correction and verification) and will be carried as a record ID in the conversion program. The main entry control number will guarantee total accountability, as previously suggested, and will give the ability to inventory: work loads, deferred entry categories, pending corrections and verified entries with respect to the conversion process. By allocating separate control number blocks to special purposes, control can be extended to include the mix of retrospective, interim, and ongoing conversion files for different libraries.

Keying instructions are discussed in section 3 of chapter Processing Center Organization (PC-ORG), volume 2 of this report. Instructions for handling diacritic sequences are discussed in section 4 of that chapter.

SYS

123456

CSL PROCESSING CENTER
INPUT CODING SHEET:
MONOGRAPHS

/PN4121 /Weaver, Carl Harold, 1910- zd
.W347 /Speaking in public /by, Carl H. Weaver. /New York,
/American Book Co/, 1966,
/vii, 488 p. /illus. /23 cm
f Includes bibliographies.

SYS Fig. 8

m /1. Public speaking. ~~2. Title.~~
s ~~PN4121.W347~~ w 808.51 x 66-711
~~66-66~~
~~Library of Congress~~ ~~CUG~~

● Date 1	Date 2
1966	

● DATE TYPE:

bc	2 dates: 2d is ©
bm	multiple date span
bn	date not known
bq	digits missing
br	prev. published

ca	LC call no. is bracketed

CATALOG SOURCE:

ea	NAL
eb	NLM
ec	Coop. Cat.
ed	NUC
ee	other
ef	orig. cat.

FORM OF REPRODUCTION:

ga	microfilm
gb	microfiche
gc	micro-opaque
gd	large-print

CONTENT FORM:

ha	abstracts
hb	bibliographies
hc	catalogs
hd	dictionaries
he	encyclopedias
hh	hndbks./manuals
hi	indexes
hp	progrmmd. texts
hr	directories
hs	statistics
hy	yearbooks

TYPE OF WORK:

ia	juvenile
ib	fiction
ic	autobiography
id	biog.-indiv.
ie	biog.-coll.

● TYPE OF ADDED ENTRY:

Series traced same as note	ja									
Series traced differently from note	jr									
Subject headings and subdivisions	jm	ta								
Non-subject/non-series tracings	jq									

GOVERNMENT PUBLICATION:

ka	U.S. Federal
kb	Cal State
kc	Cal Co./Muni.
kd	international
ke	other govts.

ma	conference pub.
na	non-keyable data
qa	cancel title added entry same as title
ra	card lacks title traced same as short title

sa ________ % lang.

ta	translation

⊙ = must always be filled in
●. = must frequently be filled in

MAIN ENTRY HEADING:

●	ua ☐	type of main entry
	ub	m.e. is subject
	uc	m.e. is publisher
	ud ✓	m.e. repeated in body

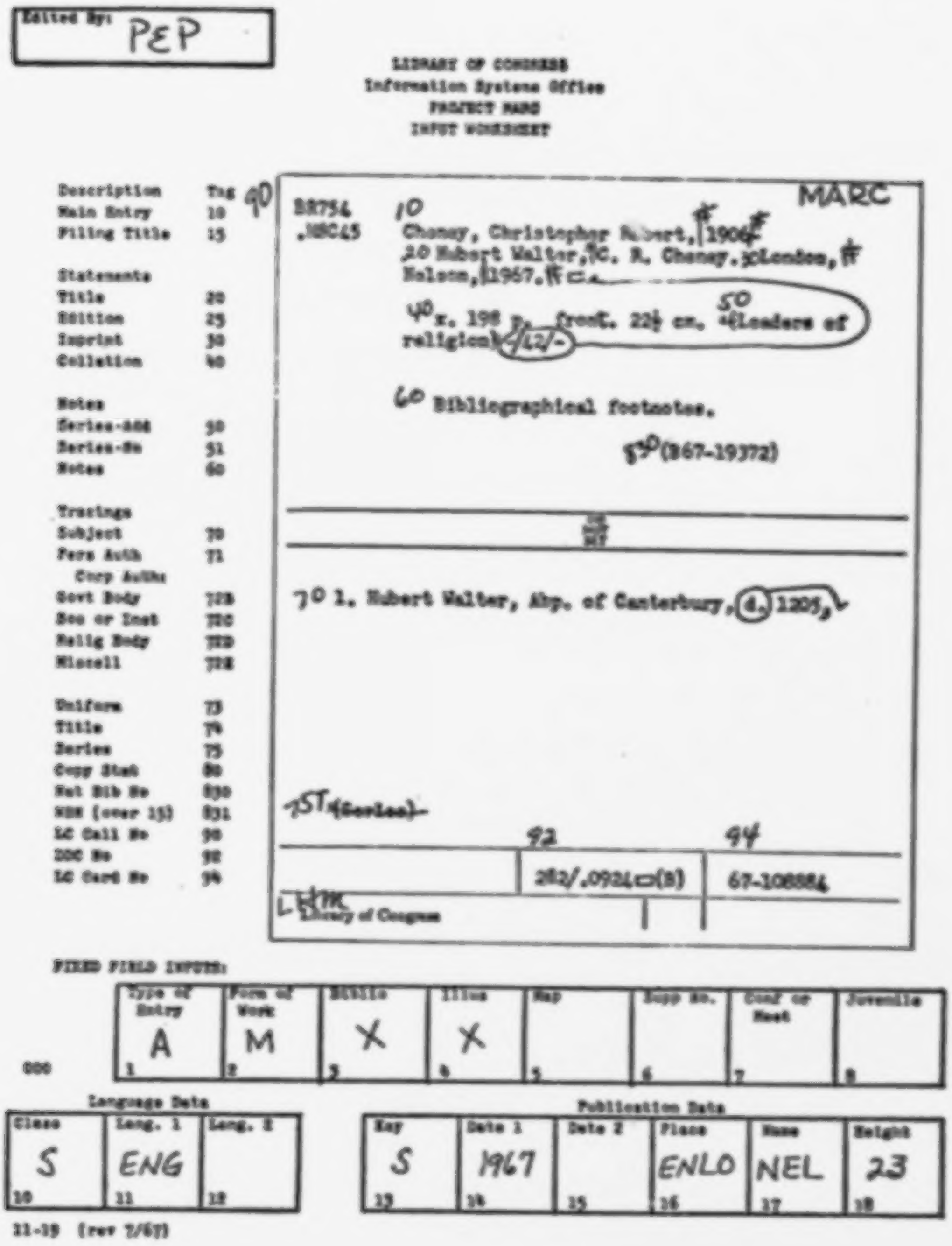
HOLDINGS:

	System ⊙	+Br ⊙	Total Copies Here
⊙ wa	004	90	
wb			
wc			
wd			

⊙ EDITOR rms			
Mo.	Day	Yr.	Minutes
01	27	69	02

KEYPUNCHER			
Mo.	Day	Yr.	Minutes

SYS Fig. 9: LC INPUT CODING SHEET



Edited By: PEP

LIBRARY OF CONGRESS
Information Systems Office
PROJECT MARC
INPUT WORKSHEET

Description	Tag
Main Entry	10
Filing Title	15
Statements	
Title	20
Edition	25
Imprint	30
Collation	40
Notes	
Series-Add	50
Series-No	51
Notes	60
Tracings	
Subject	70
Pers Auth	71
Corp Auth:	
Govt Body	72B
Soc or Inst	72C
Relig Body	72D
Miscell	72E
Uniform	73
Title	74
Series	75
Copy Stat	80
Nat Bib No	830
NBN (over 15)	831
LC Call No	90
DDC No	92
LC Card No	94

90 MARC

BR754 .H8C45

10 Cheney, Christopher Robert, 1906-
20 Hubert Walter, C. R. Cheney. London, Nelson, 1967.
40 x, 198 p. front. 22½ cm. 50 (Leaders of religion) 42/-

60 Bibliographical footnotes.

830 (B67-19372)

70 1. Hubert Walter, Abp. of Canterbury, d. 1205.

75T (Series)

	92	94
	282/.0924 (B)	67-108884

Library of Congress

FIXED FIELD INPUTS:

000

Type of Entry	Form of Work	Biblio	Illus	Map	Supp No.	Conf or Meet	Juvenile
A	M	X	X				
1	2	3	4	5	6	7	8

Language Data

Class	Lang. 1	Lang. 2
S	ENG	
10	11	12

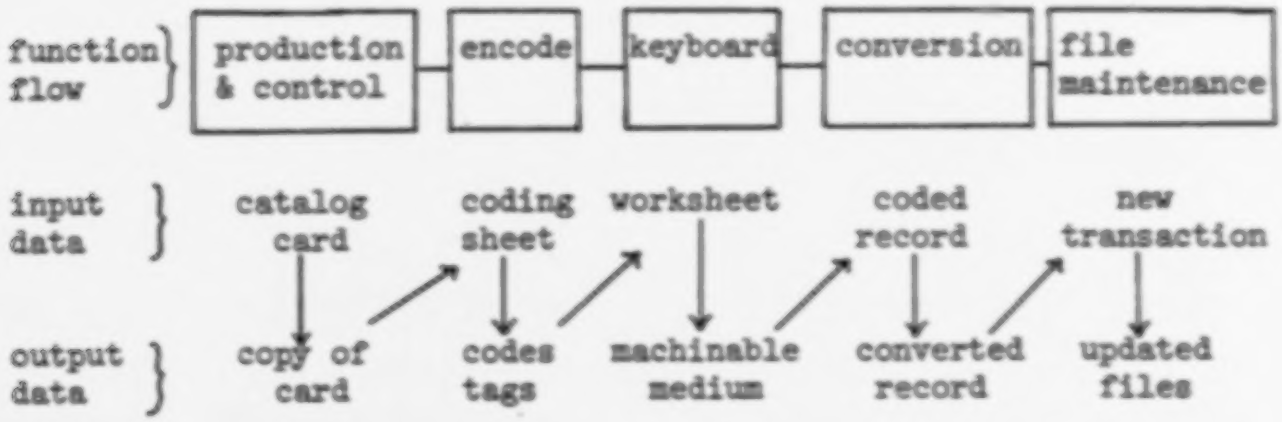
Publication Data

Key	Date 1	Date 2	Place	Name	Height
S	1967		ENLO	NEL	23
13	14	15	16	17	18

11-19 (rev 7/67)

CONVERSION (see Vol. 1, CON chapter)

From the system point of view, the conversion function consists of translating the codes and tags, (supplied by bibliographic editors) and the text of the catalog card, into a MARC II format machine record. Conversion deals with record units only, and does not contain any manipulation of the basic system files. It does maintain certain housekeeping files of its own, but these are for the purpose of holding coded and converted records until they can be reviewed and verified or deferred. In brief, then, the system boundaries for the conversion function are keyboarding on the input side, and file maintenance with respect to output.


function flow
production & control
encode
keyboard
conversion
file maintenance
input data
catalog card
coding sheet
worksheet
coded record
new transaction
output data
copy of card
codes tags
machinable medium
converted record
updated files

The above schematic depicts the flow of functions within the system.

From the point of view of the flow of data, however, the conversion task represents the nexus of many different kinds of input sources, specifically: retrospective conversion, and search requests in support of cataloging for current acquisitions (to be discussed fully in a later section of the system description). The first two inputs may be in the form of either full or partial record data; the third input type will be in partial form only.

Data Source	Type of Record	Function
Retrospective	Full	Probably addition to Master File
Retrospective	Partial	Search for duplicate already in Master File
Current Cataloging	Full	Probably addition to Master File

Data Source	Type of Record	Function
Current Cataloging	Partial	Search for duplicate already in Master File (especially MARC section)
Current Acquisitions	Partial	Search MARC portion of Master File for duplicate

Partial records may consist of only author and short title (minimum), or also call number (optional), and subject tracings (optional). Author-title is necessary for any search operation. Call number and subject tracings may be present to indicate variations from the record already in the master file. The appropriate conditions for these various forms of record inputs and functions will be more fully discussed under the topic file maintenance in the system description.

The internal flow within the conversion function is itself composed of a number of separate sub-functions, all operating together to allow for code translation, editorial review, error correction, and continued re-cycling until the record can be verified. It should again be noted that here as throughout the entire input cycle, the main entry serial number is the predominant means for control and for identifying the same entry through many different procedures. The main entry serial number (MESN) is originally assigned to the source catalog card during the production and copy process. The MESN appears on the card-template copy of the catalog data. It is then used in editor's logs to record their work flow. During keyboarding, in addition to serving as an input-output control, the MESN is punched along with the card text and codes. Thus it is also present in the computer record where it functions as a CRIDNO (Conversion Record ID Number). Finally, when the converted record is printed out for editorial review and verification, the correlation of the coded card-template document with the computer print out is accomplished by linking an MESN with its matching CRIDNO.

The first step in the record conversion process is to sort the keyboarded records into MESN/CRIDNO order. The codes, tags, and text for each catalog record are then input and processed directly, record by record, by the main conversion program. The input records may be classified into two main groups: (1) first-time input, and

(2) transactions to records already in the conversion program Work Tape (WT). As already mentioned, the first-time category may contain full or partial records. The transaction category may also be subdivided into (2.1) corrections, (2.2) verifications, (2.3) deferments. Unless otherwise specified, input records will be assumed to be in the first-time full-record category. (Partial records, corrections, verifications, and deferments will be signalled by an alphabetic suffix appended to the MESN/CRIDNO during keying; these suffixes will be P, C, V, and D respectively.) The conversion program treats all first-time inputs in the same way. Separate paths are followed for the various types of transaction inputs.

First-time inputs. The basic operations performed on first-time inputs are:

1. code translations
2. code assisted field recognition
3. automatic field recognition
4. legality editing

These four steps constitute the basic processing techniques used by the conversion program, and each is performed on that definite class of data elements to which the technique is relevant. Each technique contributes to the construction of a record which is at the MARC II level of data element identification and description. Code translations are oriented to the check boxes on the card-template input coding sheet, and serve to build the fixed field descriptors and variable field indicators in the MARC format. Code assisted field recognition depends upon scanning the card data itself for field and sub-field delimiters, and then constructing the data fields according to MARC II specifications of demarcation and identification. Automatic field recognition techniques, where feasible, accomplish the same goals except they do not depend upon editorially supplied codes to support MARC II data element identifications. Legality editing is the analysis of the record for inconsistent or illogical cataloging or coding situations; for example: analytic author added entries not in author-title form.

The philosophy of the Conversion subsystem is to create a MARC record as quickly and as simply as possible, and then to process that MARC record for other conversion functions such as listing or correction. Thus the output of the conversion program for first-time inputs,is a MARC record which will then be printed out and corrected. The proofreading format, consequently, is oriented to MARC fields and subfields rather than to input codes or a catalog card format. The format is as follows:

```
      Tag
1st Subfield  ______________________________
2nd Subfield  (5 sp)________________________
3rd Subfield  (10 sp)    ___________________
4th Subfield  (15 sp)         ______________

IMPR  260
Place  $a New York,
Publ   $b     Grosset and Dunlop,
Date   $c          (1957,
Date   $c               c1931)
```

The MARC tags and delimiters are displayed for bibliographic verification, and the card text for typographic proofing. Of the two, bibliographic accuracy is more crucial to adequate system performance. SYS Fig. 10 gives an example of a complete record printed out in proofreading format.

<u>TRANSACTION INPUTS</u>. For the conversion system, transaction inputs all refer to records <u>already</u> on the Work File Tape. Transaction records, as the name implies, contain actions to be performed upon records which have already come through the "first-time" conversion cycle. The three types of transactions are:

1. corrections
2. verifications
3. deferments

A schematic of the flow of transaction inputs through the conversion system is given in SYS Fig. 11.

Corrections occur as a result of editorial review. Corrections are identified by locations (field tag, word string) and by function (copy, delete). Corrected records are re-printed (only the altered portion) for further editorial review. It should be noted that L.C. MARC I experience indicated that 41% of all initial corrections required a second correction cycle. Corrections and proofreading will be done by input editors.

When a record - either partial or full - has been proofread and corrected to an acceptable standard of bibliographic and typographic accuracy, it is released from the conversion system. The release is triggered by a specific transaction record which certifies the completeness of the editing and conversion/correction cycle. The record is then written onto a clean batch tape, to be processed by the file maintenance subsystem.

The defer transaction is designed simply to hold records on the Work File for an indefinite period, for whatever reason. Entries in a defer status will be ignored in any time-on-work-file statistics or inventories.

CONVERSION SUBSYSTEM.

The conversion subsystem consists of four distinct processing modules, each of which accomplish a separate function with respect to the overall task. These four are:

1. Convert (TRANS): translate edit codes/tags to machine record
2. Correct (FIX) : correct editorial/machine errors
3. Format (LIST) : output both conversions and corrections for manual review
4. Confirm (PASS) : release records to File Maintenance subsystem

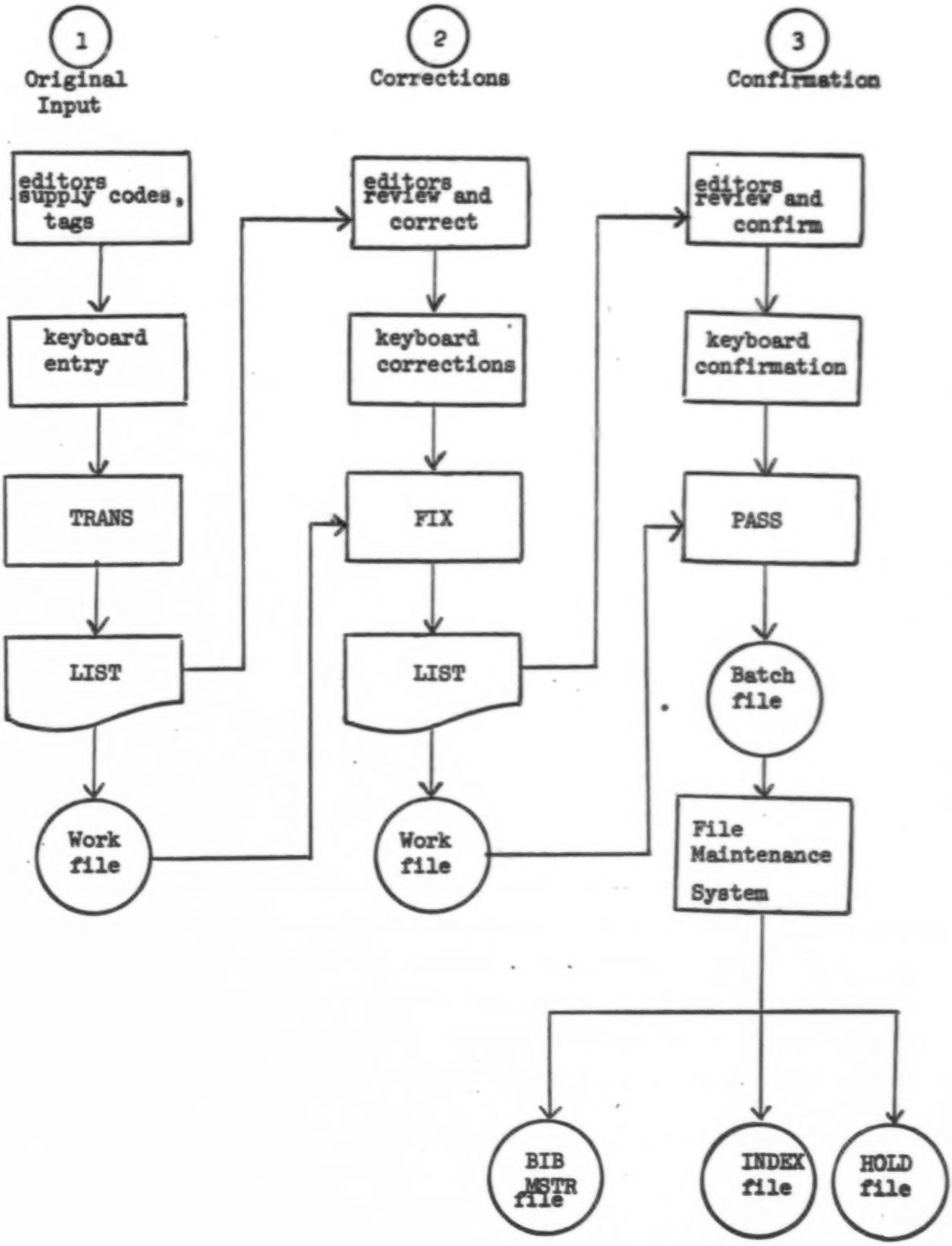
SYS Fig. depicts the interaction of these four conversion modules, by showing three distinct cycles of an entry through the subsystem: original input, correction, confirmation. Cycle one (original input) requires the TRANS and LIST modules. Cycle two (correction) takes place after editorial proofreading and review and requires the FIX and LIST modules. Cycle three (confirmation) is the final system function and requires only the PASS module.

Records which undergo a successful conversion are released to a batch file which accumulates for processing by the file maintenance subsystem. Since any conversion run may be required to process concurrently cycles one, two or three, an executive control routine (EXEC) will be used to determine which modules to call in order to accomplish a given cycle.

SYS FIG. 10: SAMPLE PROOFREADING FORMAT

TAG delimiter	Catalog Card Data
RECORD NO	518178
PC CALL	F591 W35 1957
ME PERS	
name	Webb, Walter Prescott,
date	1888-
TITLE	
short	The Great Plains.
IMPR	
place	New York,
pub	Grosset & Dunlap,
date	(1957.
date	c1931)
COLL	
page	525 p.,
illus	illus.,
size	21 cm.
SN UNTR	
note	(Grosset's Universal Library, UL-29)
BN BIB	Includes bibliographies.
SUB GEO	
head	Great Plains
gen	Hist.
SUB GEO	
head	Mississippi Valley
gen	Hist.
LC CALL	F591
DDC	978
LC CARD	57-4356
CAT	Printed for A. B. P.
DESCR	
Dtype	c - (pub + copyright)
Date 1	1957
Date 2	1931
Illus	a- (illus)

SYS Fig. 11: PROCESSING CYCLES FOR CONVERTING CATALOG RECORD


1
Original Input
2
Corrections
3
Confirmation
editors supply codes, tags
keyboard entry
TRANS
LIST
Work file
editors review and correct
keyboard corrections
FIX
LIST
Work file
editors review and confirm
keyboard confirmation
PASS
Batch file
File Maintenance System
BIB MSTR file
INDEX file
HOLD file

FILE MAINTENANCE

The primary task of the file maintenance sub system is to preserve the integrity, organization and cross referenced structure of the system's three control files: BIB MSTR, INDEX and HOLD. For each file there is a different set of requirements:

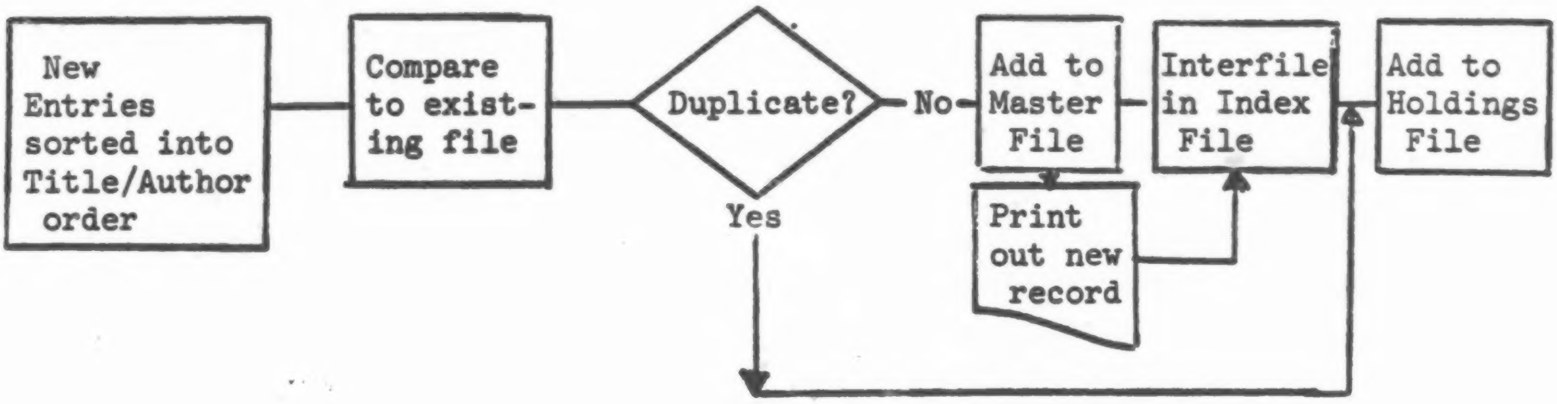
FILE	REQUIREMENTS
1. BIB MSTR (Bibliographic Master)	1.1 Represent each book title by one and only one BIB MSTR record. 1.2 Partition file into MARC and non-MARC segments. 1.3 Eliminate frequent sorting/copying of BIB MSTR file.
2. INDEX (Title/Author Index)	2.1 Preserve reference to BIB MSTR record. 2.2 Maintain alphabetic Title/Author sequence in INDEX file. 2.3 Limit size of INDEX file.
3. HOLD (Library Holdings)	3.1 Preserve reference to BIB MSTR record. 3.2 Carry holding library code and local cataloging variations. 3.3 Replace references to BIB MSTR non-L.C. records with references to L.C. records, where possible. 3.4 Eliminate frequent sorting/copying of HOLD file. 3.5 Partition HOLD file into calendar-time segments.

Each of the processing requirements can be satisfied by constructing a set of primary algorithms to be followed in the file/maintenance sub system, although some requirements are met by the design and contents of the files themselves.

REQUIREMENTS	RESOLUTION
BIB MSTR	
1.1 One BIB MSTR record per title.	1.1 Match each new title against INDEX file; if duplicate, do not add to BIB MSTR.
1.2 MARC and non-MARC segments.	1.2 Reserve separate record ID number series for MARC and non-MARC records.
1.3 Eliminate sort/copy	1.3 Address records to BIB MSTR file serially in record ID number order.

REQUIREMENTS	RESOLUTION
INDEX	
2.1 Reference to BIB MSTR record.	2.1 Carry BRIDNO in INDEX record.
2.2 Title/Author alphabetic file sequence.	2.2 Interfile new records into INDEX file in alphabetic order.
2.3 Limit INDEX size.	2.3 Use fixed length records, with compressed Title/Author data.
HOLD	
3.1 Reference to BIB MSTR record.	3.1 Carry BRIDNO in HOLD record.
3.2 Local variations.	3.2 Carry call number and subject tracings in HOLD record.
3.3 Replace non-L.C. references.	3.3 Maintain a list of BRIDNO's of L.C. non-L.C. record pairs in BIB MSTR. Before using HOLD file exchange BRIDNO's in affected HOLD records.
3.4 Eliminate sort/copy.	3.4 Address records to HOLD file serially in record ID number order.
3.5 Calendar-time file partitions.	3.5 Keep track of HOLD record ID numbers assigned during specific time periods, by recording date of entry in HOLD record.

Resolving the processing requirements determines the overall strategy of the file maintenance operation, which is basically: compare each new entry against the existing file; if there is a matching record, build additional holdings record; if no match, add the current entry to master, index, and holdings files. Schematically this is simply represented:


New Entries sorted into Title/Author order
Compare to existing file
Duplicate?
No
Yes
Add to Master File
Print out new record
Interfile in Index File
Add to Holdings File

However, as has been pointed out by the previous two tables, the overall flow is complicated by many factors, especially the problem of replacing a non-L.C. BIB MSTR record with a newly entered L.C. record for the same title.

The resolution of that problem has been given here as well as in the initial description of system file organization, and will not be repeated here except in schematic form. It should be clearly noted in addition, that the L.C. replacement algorithm covers the inclusion of MARC records in the system files, as will also be shown in the processing schematic,SYS Fig.13 on following page. The flow begins at the second step of the previous chart, after the batch of new entries has already been sorted into (compressed) Title/Author sequence, to be matched against a similarly compressed and ordered INDEX file.

An additional complicating factor in the file maintenance system logic is the composition of any transaction file of new entries. The batch may be composed of both full and partial entries, as previously described.

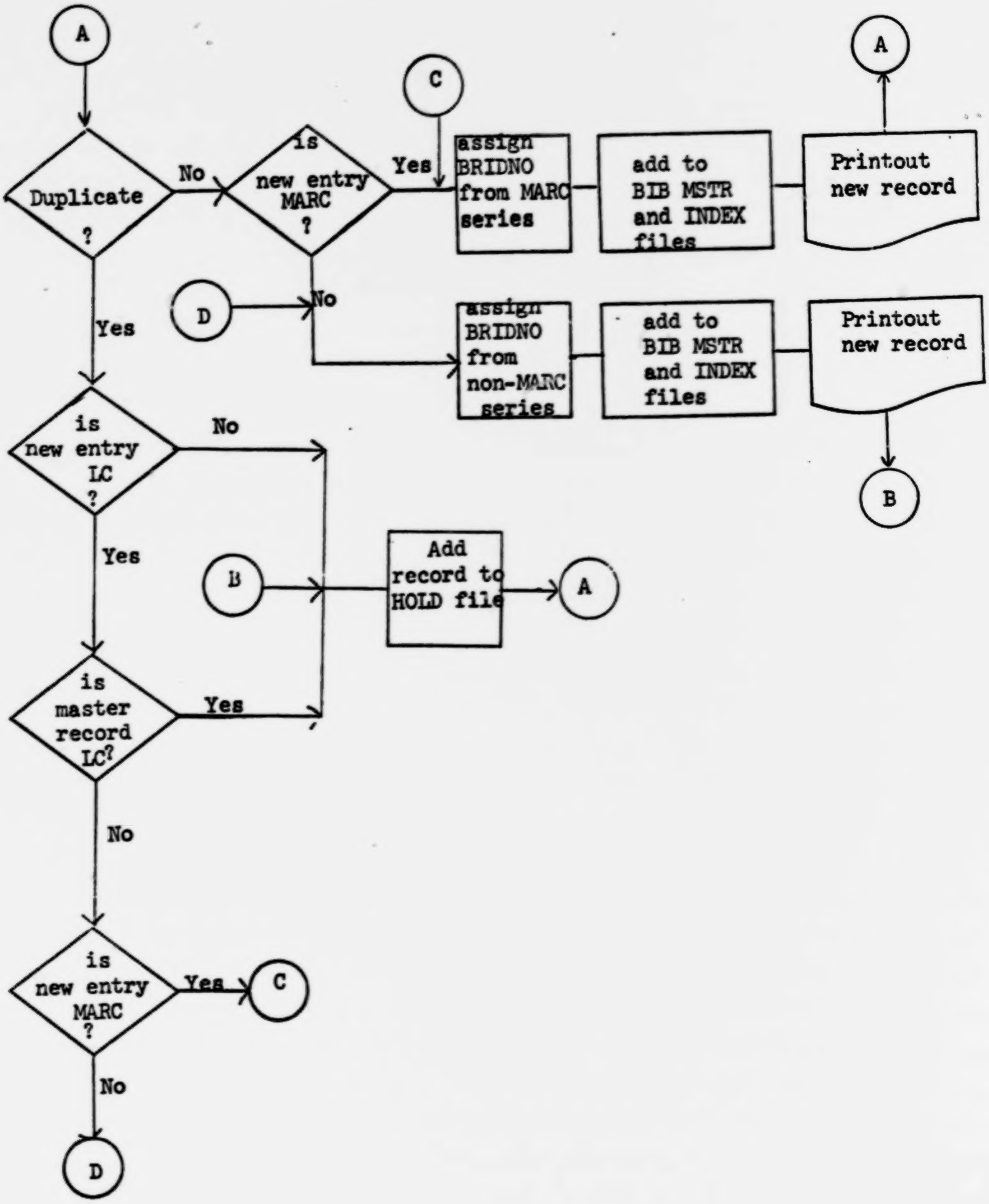
SYS Fig. 12: FILE MAINTENANCE TRANSACTION MODES

Type	Purpose	Maintenance Logic
Full	Retrospective Conversion Current Cataloging MARC tapes	Add to Master File if not duplicate.
Partial-Mode I	Search Request	Search Master. If match, return BRIDNO.
Partial-Mode II	File Update	Add data to HOLD file.
Partial-Mode III	Card Request	Access master file and produce cards, labels, etc.
Partial-Mode IV	Wait for MARC	Search newly arrived MARC tapes.

The processing functions for full entries has already been covered in the prior discussion. Additional description is needed for the logic of processing the four distinct types of partial entries.

Partial-Mode I (Search Request). The form of the entry is Author, Title, Transaction Code (=M1), publication date, L.C. card number (if available). The request is made by any network library (other than the first to undertake retrospective conversion) wishing to support its retrospective or current conversion efforts. The logic of the file maintenance system calls for interrogation of the system files via the INDEX file.

ENTRY OF MARC RECORDS INTO SYSTEM FILES


A
Duplicate ?
No
is new entry MARC ?
Yes
C
assign BRIDNO from MARC series
add to BIB MSTR and INDEX files
Printout new record
A
D
No
assign BRIDNO from non-MARC series
add to BIB MSTR and INDEX files
Printout new record
B
Yes
is new entry LC ?
No
Yes
B
Add record to HOLD file
A
is master record LC?
Yes
No
is new entry MARC ?
Yes
C
No
D

SYS. Fig. 13

2

Partial-Mode II (File Update). All Mode II transactions represent resubmissions of partial data entries that have been through Mode I or Mode IV, which are both search request modes. The form of the entry is at least Author, Title, Transaction Code (=M2), publication date, LC card number, local call number. The remainder of the entry may contain subject tracings in various combinations depending on the mix of conditions. Since it is assumed that all Mode II entries do in fact have a matching system record, the failure to find such a match will be flagged as a user error condition (without penalty). The result of a successful match is the creation of new HOLD record in the holdings file, containing library code, local call number, and local subject tracing if appropriate.

Partial Mode III (Card Request). Any Mode II transaction may be submitted as a Mode III transaction as well, with the addition of a BRIDNO as request for a computer printout of catalog cards and book labels. Obviously this would be generally meaningful only for uncataloged transactions. Mode III transactions must be accumulated to a reasonable batch size, since the information requested resides only in the BIB MSTR file, which in turn will reside on many reels of magnetic tape (maximum of 35,000 BIB MSTR records per high density tape). Mode III requests are sorted into BRIDNO order and passed against the Master file; matching BIB MSTR records are pulled off into a separate file for formatting and output.

Partial Mode IV (Wait for MARC). This maintenance path is designed for those entries which are current imprints but not yet in the system files, although it is reasonable to expect their imminent arrival. Rather than the requester constantly resubmitting these entries, they are accumulated and held on a special subfile. This Mode IV subfile is maintained in alphabetic order; when a matching entry is found in the system files, that particular Mode IV transaction record is dropped from the subfile. Appropriate time-in-file controls can be built in, since an alternative to Mode IV status is to edit and convert the full entry.

INTRODUCTION TO DATA OUTPUT

Output processing is the generic term used to describe the four subsystems which create or support the production of output services or documents in the California State Library-Processing Center. We have already discussed an indirect form of output service under File Maintenance: specifically the production of catalog cards from MARC tapes. However, here we wish to distinguish single entry outputs from the level of total file processing; entry is very much an input consideration, while most output processing at this stage of the development of the California State Library-Processing Center, is file oriented.

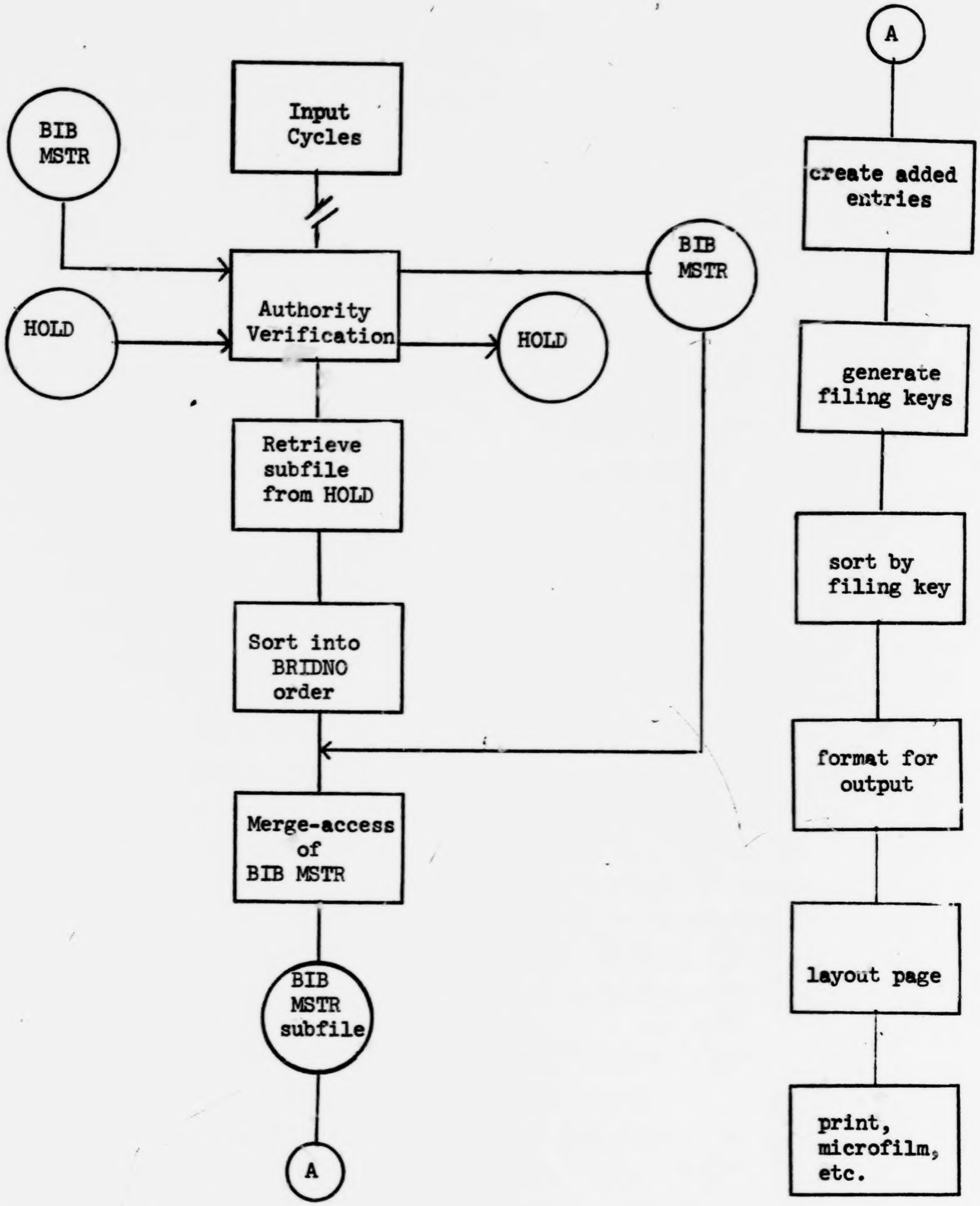
There are four output processing subsystems which will be discussed in the system description:

1. Authority Verification
2. Data Retrieval
3. Book Catalog Filing
4. Book Catalog Formatting

Authority verification has the task of standardizing all author names and subject terms in the file, and also of generating author and subject syndetic cross references. Data retrieval is designed to construct the subfiles necessary for the production of union/single library book catalogs; and also to consolidate local library variations into the Master File record. Book catalog filing has the double role of creating added entries for the book catalog and also for generating sort keys that can be manipulated to produce an acceptable bibliographic arrangement of entries. Book catalog formatting controls the structure of the output entries, output messages (see also, see under), heading suppression and page layout of the final printed product.

A schematic of the output processing flow is given in SYS Fig. 14.

SYS Fig. 14: OUTPUT PROCESSING FLOW


BIB MSTR
HOLD
Input Cycles
Authority Verification
HOLD
BIB MSTR
Retrieve subfile from HOLD
Sort into BRIDNO order
Merge-access of BIB MSTR
BIB MSTR subfile
A
A
create added entries
generate filing keys
sort by filing key
format for output
layout page
print, microfilm, etc.

AUTHORITY VERIFICATION (see Vol. 2, Chapter VER)

Authority editing is the first system function we have discussed thus far which represents a clear transition into the output area. Although verification of authors and subjects can be performed on an entry-by-entry basis (as it is to some extent in the course of file maintenance), the major authority verification is performed as a file processing operation. The efficiency of this is clear: supplying a date for a chronological subject heading subdivision can be done once and then be applied to all the entries in which the heading appears. The benefits of the editing effort are distributed across all the entries in which the heading is used.

Thus the major technique applied in the verification system is to construct consolidated records which combine all the occurences of a given name/term. These consolidated records are similar to a union list, in the sense that all the entries which utilize the name/term are indicated in the union record (by BRIDNO). It should be noted that author verification applies to added entry tracings as well as to main entries, so that the author file will be quite extensive.

The following table is a schematic of two name authority union records. Each record contains the full author name, plus a string of BRIDNOs representing each occurrence of the name. In addition the type of occurence (main or added) is given.

NAME	BRIDNOs	LC	TYPE
Love, Robert Merton 1909-	005	N	Main
	007	N	Added
	025	N	Added
	037	N	Main
	045	N	Main
Love, Robertus 1867-1930	003	Y	Added
	021	Y	Added
	905	Y	Main
	052	N	Added

The union record also contains a LC/non-LC flag (if any of the BRIDNOs represent L.C. catalog records), and also a sequential author verification record ID number (AVRIDNO).

The union records are displayed in the following summary fashion:

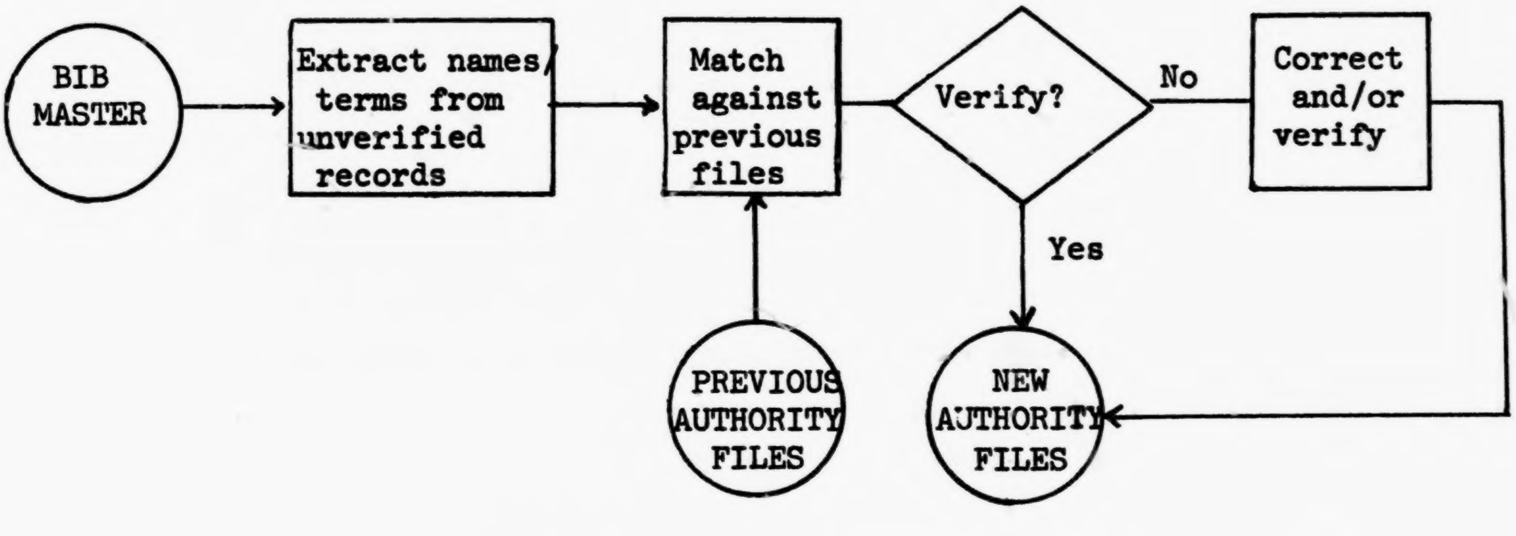
LISTING

SEQ. NO.	NAME	L.C.	NO. MAIN	NO. ADDED
10420	Love, Robert Merton, 1909-	N	3	2
10421	Love, Robertus, 1867-1930	Y	1	3

Corrections are posted to a single record, identified by ID SEQ. number; the correction will ultimately be applied to all the entries represented by their BRIDNOs in the union record.

If required, a list of the BRIDNOs of any union record can be printed out in addition to the summary listing, although this would not be produced except by request. Similarly to facilitate editorial verification, short title could be carried with each BRIDNO in the union record, even though this would lengthen the union record size. Then for difficult cases, editors could request Title Lists to establish a context for the author names.

The chapter on Authority Verification (chapter VER), describes all the detailed steps and subroutines required to implement author and subject verification. The basic assumption in the chapter is that the process does not cumulate over time, and that each verification is a first-time operation. From the system point of view however, the authority files do build with each verification cycle and are re-usable during each succeeding cycle. This is shown schematically in the following diagram:

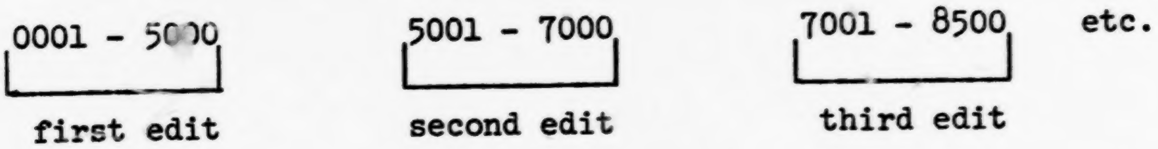

BIB MASTER
Extract names/ terms from unverified records
Match against previous files
Verify?
No
Correct and/or verify
Yes
PREVIOUS AUTHORITY FILES
NEW AUTHORITY FILES

SYS Fig. 15: AUTHORITY VERIFICATION CYCLE

Each verification cycle includes the files built during all the preceding cycles. These previously verified files constitute a dictionary of standard forms, in much the same way that successive editions of L.C.'s Subject Headings provide a body of standard subject references. The net effect of this is to reduce the amount of editing to be performed during subsequent verification cycles.

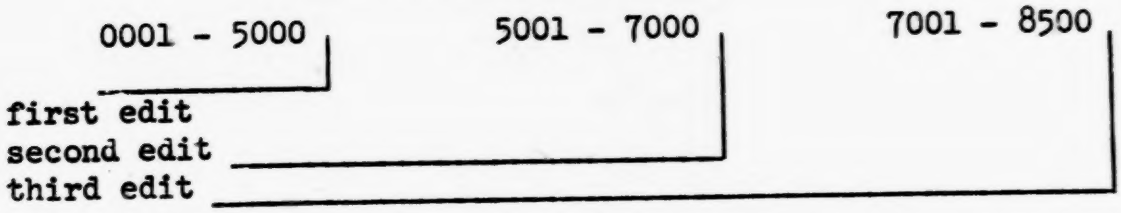
It can be seen from the above that the entire file need not be verified, except for the first time. The BRIDNO series covered by any authority edit is discrete and need not be repeated.

BRIDNOs IN EACH VERIFICATION CYCLE



From the point of view of the growing inclusiveness of the authority file, however, the BRIDNOs whose names/terms are verified is an overlapping series:

BRIDNOs VERIFIED BY AUTHORITY FILE



Thus the ongoing requirements of authority editing decrease rather radically. In this way authority editing can be seen to bear a strong resemblance to the time phases of conversion, moving from large scale retrospective application to a steady-state ongoing operation.

The context of verification has for the most part been the establishment of invariant forms of names or terms. An equally important function is to verify the presence of a date or dates in period subdivisions of subject tracings. This is an important form of editing, because it will be used by the system filing program (see chapter FILE) to arrange such subdivisions into chronological rather than alphabetic order in the output book catalog. Simple examples are:

HEADING AND SUBDIVISION	DATE REQUIRED?
U.S.--HISTORY--CIVIL WAR	YES
U.S.--HISTORY--REVOLUTIONARY WAR	YES
U.S.--HISTORY--WAR OF 1812	NO
U.S.--HISTORY--WORLD WAR I	YES

The system filing rule program requires the presence of a date on which to sort. The authority edit program will flag all such subdivisions which require a date. After the dates are supplied the entries will be re-arranged in the printed book catalog:

BOOK CATALOG CHRONOLOGICAL ORDER

U.S.--HISTORY--REVOLUTIONARY WAR (1776-1780)
U.S.--HISTORY--WAR OF 1812
U.S.--HISTORY--CIVIL WAR (1860-1865)
U.S.--HISTORY--WORLD WAR I (1914-1918)

The dates for the above have been entered via the subject authority verification cycle.

Additional use for authority editing is to partition the output files by network library. These individual files would be developed after editing has been done on a system-wide basis, to avoid redundant effort. At that point, it would be useful for individual libraries to retrieve and print out their own files. This would be especially true for subject files. A single library's subject file could be run through that part of the system which would yield outputs in the form of "see" and "see also" reference records. These records could be printed on 3 x 5 cards to give a complete subject authority cross reference file in card form.

FILE RETRIEVAL

The parameters of traditional information retrieval in the California State Library - Processing Center system, are controlled by two factors: hardware and file design. The hardware configuration does not include a large random access storage device capable of accommodating a reasonable size BIB MSTR file (i.e. 580 x 10^6 characters for a 10^6 entry file). Consequently it consists of serial storage and therefore permits only serial access. The design of the files reflects this hardware characteristic, and attempts to optimize file maintenance by reducing entry interfiling and direct access searching.

The implications of serial access both in hardware and file design, are that the system's retrieval operations vary in efficiency, depending on the level of search definition. Retrieval is least efficient under the condition of searching its files for a single item in response to a single request; in fact there simply is no such provision. Retrieval is moderately efficient however when single items are searched for in response to a batch of requests. The logic of the operation doesn't change; it is just that the economics become radically more favorable. Two system functions already discussed - file maintenance and authority verification - utilize this mode of batched single item retrieval. The following table summarizes these operations:

SYSTEM FUNCTION	FILE SEARCHED	SEARCH METHOD	SEARCH OUTPUT	ACCESS METHOD TO BIB MSTR
1.Add New Entries	INDEX	Batched Transactions	BRIDNO	Manual look-up in BIB MSTR print-out.
2.Request for Catalog Cards	INDEX	Batched Requests	Catalog Cards	Sort requests into BRIDNO order; merge-match with BIB MSTR.
3.Author Edit	BIB MSTR	Correction File	BIB MSTR Record	Sort Correction File into BRIDNO order; merge-match with BIB MSTR.
4.Subject Edit	HOLD	Correction File	HOLD Record	Sort Correction File into HRIDNO order; merge-match with HOLD.

The method of operation for all retrieval of individual items is simply to batch, and sort the batch (of search requests, of record corrections) into the same sequence as the file being searched:

File Searched	Sequence of Batch
INDEX	Title/Author (compressed)
HOLD	HRIDNO
BIB MSTR	BRIDNO

Note that in the case of matched requests, the output is frequently a surrogate for the BIB MSTR record, an address in a volume of printouts expressed in terms of a BRIDNO. The Master File record itself is not delivered because there is no immediate direct access to it, either in the computer file or in the printout. All access operations must be done via a second pass: manual lookup or re-sorting search requests after a BRIDNO has been retrieved via author file searching. (See Mode II transactions in File Maintenance operations.)

The system does however have an efficient retrieval mechanism, which operates on the file level rather than on an author-title level. The orientation of retrieval at this level is to select an entire subfile whose entries form a logically linked subset. The nature of this subset is controlled by the two basic foci of the system: book titles and holding libraries. The subsets to be retrieved are defined in terms of the relationship of books and libraries: all the titles held by a single network library, or all the libraries holding a single title. Serial access is not a severe limitation on the type of retrieval and the system files are designed specifically to support the development of the two types of subfiles just described.

It should be clear then that file retrieval depends upon manipulating the HOLD file, just as record retrieval depends upon the data in the INDEX file. The HOLD file, it will be recalled, contains two main classes of information: the code name of the holding library, and variations in call number and subject tracings. The following is the example of HOLD used previously.

HOLD Records 001-009

Recd ID No.	001	002	003	004	005	006	007	008	009
* Title	MNO	ABC	ABC	MNO	JKL	JKL	ABC	JKL	DEF
BRIDNO	001	002	002	001	003	003	002	003	004
Lib. Code	Z	T	Z	T	T	W	W	Z	W

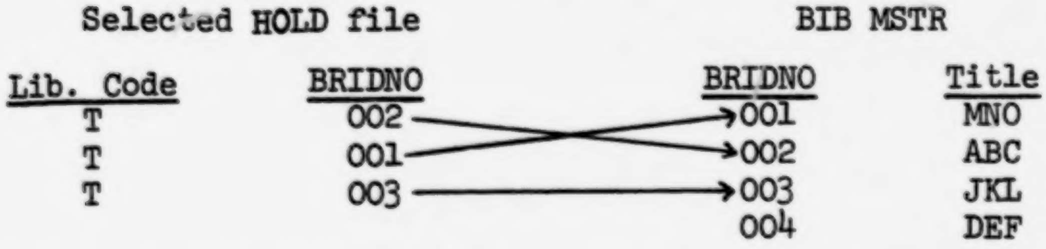
(*Title is not actually present in the HOLD file; it is shown for illustration only)

There are three different modes of retrieval that can be performed.

I. For one single library, retrieve all titles held.
II. For each and every single library, retrieve all titles held.
III. For each title, retrieve all libraries holding the title.

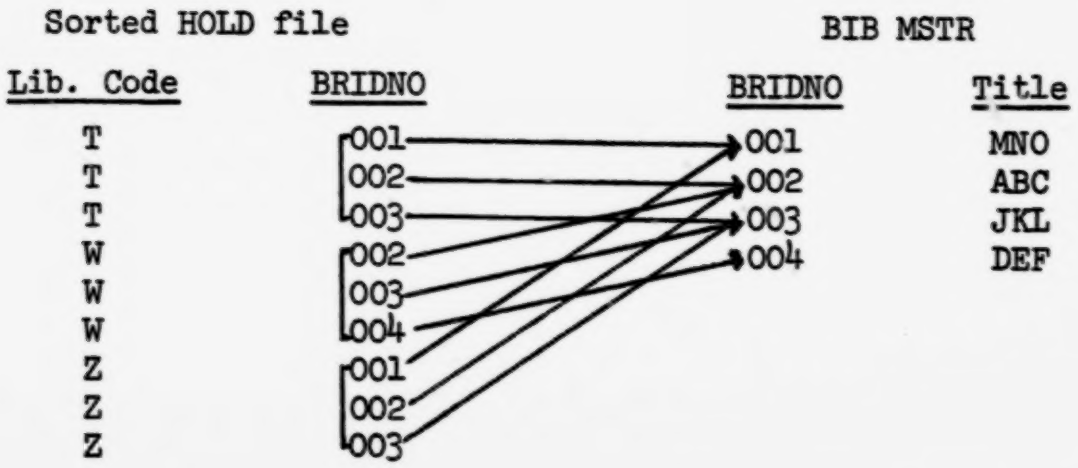
Mode I retrieval is performed by selecting from HOLD all records with a specified library code. The selected subfile will contain the BRIDNOs of the requested BIB MSTR records. Example: retrieve holdings of library T.

SYS Fig. 16: MODE I RETRIEVAL



The obvious second step in Mode I retrieval is to sort the HOLD subfile on BRIDNO to construct an ordered access list to BIB MSTR.

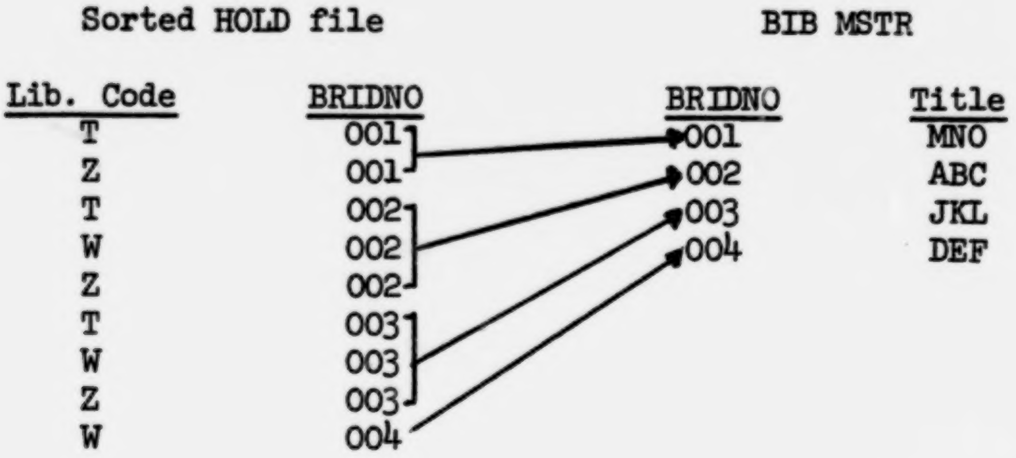
Mode II retrieval may be accomplished by successive iterations of the first method. However an effective short cut is to sort the entire HOLD file into Library code - BRIDNO order. This is shown in SYS Fig. 17.


Sorted HOLD file
BIB MSTR
Lib. Code
BRIDNO
BRIDNO
Title
T
T
T
W
W
W
Z
Z
Z
001
002
003
002
003
004
001
002
003
001
002
003
004
MNO
ABC
JKL
DEF

SYS Fig. 17: MODE II RETRIEVAL

As the figure indicates, the re-ordered HOLD file presents us with a set of BRIDNO lists, one for each library represented in the HOLD file. Each list, or single library subsection of the re-ordered HOLD file, is then passed successively against the BIB MSTR file. At the end of each list pass, the BIB MSTR file is repositioned to its initial point.

Mode III retrieval is accomplished by sorting the HOLD file into BRIDNO-Library code order. An example is given in SYS Fig. 18.


Sorted HOLD file
BIB MSTR
Lib. Code
BRIDNO
BRIDNO
Title
T
Z
T
W
Z
T
W
Z
W
001
001
002
002
002
003
003
003
004
001
002
003
004
MNO
ABC
JKL
DEF

SYS Fig. 18: MODE III RETRIEVAL

In this case the re-ordered HOLD file can be matched just once against the BIB MSTR file, since all the library code references to a single BRIDNO are sequentially arranged.

The three modes of retrieval are each used to implement a different output requirement:

Requirement	Retrieval Mode
1. Union catalog-all libraries	III
2. Union catalog-some libraries	I and III
3. separate catalog-single library	I
4. separate catalogs-some libraries	I and III
5. separate catalogs-all libraries	II

The most common system outputs - union catalog, all libraries; separate catalogs single library - can each be accomplished by simple sort-merge or retrieve-sort-merge operations. Successive passes against the Master File (Retrieval Mode II) will probably be infrequent.

In the case of union catalogs, where several HOLD records may access a single BIB MSTR record, it should be noted that variations are added to the Master Record, where possible. This is especially true where HOLD record subject tracings may vary from those in the BIB MSTR record. Variant call numbers and the different library codes are also preserved, although the different call numbers may not be printed in the final book catalog. In the process of accessing BIB MSTR records, the retrieval subsystem will consolidate and combine the varying subject tracings found in the HOLD file.

It should also be clear from the preceding that the output of the retrieval subsystem is an unordered set of BIB MSTR records. It remains for the Book Catalog Filing system (a) to generate added entries, if required; and (b) to sort the entire file into acceptable bibliographic sequence. (See chapter FILE, volume 2).

BOOK CATALOG FILING (See FILE Chapter, volume 2).

The subsystem described in chapter FILE has two primary tasks assigned to it: 1) generation of entries to be included in a book catalog output, and 2) establishment of a bibliographically acceptable order of entries in a book catalog output. In conventional library practice, these two functions correspond to the topics of added entry tracings and catalog filing rules.

The first function increases access points to the data file by creating multiple versions of the same entry; each version (or added entry) is presented under a separate heading, distinct from the main entry. Examples of added entry types are: title, series, subjects, joint authors, etc. The second function, filing, enhances the usefulness of the final output by imposing a bibliographically coherent organization upon the natural alphabetic sequence of entries. In this organization, form frequently follows function in that the attempt is made to group together bibliographically similar items and to create useful subarrangements within these groups.

From the computer point of view, it is relatively straightforward to generate added entries from a single central master bibliographic record. Implementing bibliographic filing rules via computer, however, is far more difficult because of the complex and implicit nature of traditional bibliographic filing schemes. Therefore, the major portion of chapter FILE is devoted to the elaboration of a logical framework within which various filing schemes can be analyzed.

The computer sort performed on catalog cards is a non-standard computer sort in two respects: 1) the structure of the data, and 2) the complex rules required to achieve the ALA filing order. For example, ALA filing requires the division of similar headings into subgroups that are filed in a classified order which disregards alphabetical order except within each subgroup. The following headings, which are in correct ALA filing sequence, illustrate this point:

London, Jack, 1876-1916	(single surname-personal author)
London	(non-single surname-corporate author)
London	(title)
LONDON	(subject)
LONDON-ANTIQUITIES	(subject)
London as it is today.	(title)
LONDON BRIDGE	(subject)

The complexity of the filing rules makes it impossible for a standard computer sort to result in ALA or any other particular library filing order for the following reasons:

1. The complete construction of a given heading is dependent upon the form of the heading and the bibliographic function of the entry. For example, the heading may consist of an author with his dates and designations, and may be a main entry or an alternate or connecting entry. The complete heading must include controls to guarantee the proper filing and grouping of the entry according to heading form and entry type. In addition, the user may choose to determine the basic suborder of entries within an entry type group.

2. The text of a given heading is often not the text which is to be filed, i.e., information which appears in the heading must sometimes be spelled out in another form; information must be omitted; information not present in the heading must be supplied, etc. For example, if the text of a title added entry heading were "The Old Man and the Sea," the filing text would be "Old Man and the Sea," i.e., the initial article "the" would be disregarded in filing.

3. The filing sequence of characters (including the blank, numbers, letters, signs and symbols) in a standard computer sort is different than the order prescribed in library filing rules. In a standard computer sort the collation sequence is blank, numbers and letters, with punctuation, signs and symbols interspersed among the letters; in the ALA rules the collation sequence is numbers, letters, signs and symbols. Punctuation and diacritics are disregarded. We will distinguish four types of filing rules:

1) Those which pertain to the filing sequence by heading form and entry type
2) Those which pertain to the filing sequence by the body of the entry
3) Those which pertain to the filing sequence of words, and
4) Those which pertain to the filing sequence of characters.

Throughout this discussion the first kind of filing rule - form and type - will be referred to as heading construction; the second type - body of the entry - will be referred to as suborder arrangement; the third type - word by word - will be referred to as editing; and the fourth type - character by character - will be referred to as collation sequence. SORT KEYS, the ultimate goal of the filing system, will enable the computer to sort the numerous and varied catalog entries into the desired ALA filing order.

Each of the four basic principles of ALA filing rules is discussed separately below.

* * *

HEADING CONSTRUCTION. An analysis of the ALA filing rules shows that heading construction is a three part problem: 1) selection of the data elements (i.e., subfields to be included); 2) determination of the heading type; and 3) determination of the entry's bibliographic function. The three parts of the heading construction problem are outlined and illustraded below:

Problem	Description
1) Selection of data elements	Name, date, title, etc.
2) Determination of heading form	Single surname or non-single surname (e.g., forename)
3) Determination of entry type	Main entry, added entry (author, series, title, subject)

1. Selection of the data elements to be included in headings depends upon user preference and the presence or absence of data elements. Elements such as those showing relationship, e.g., "appellant" or "defendant", may be included or excluded from the heading depending upon the user's preference; elements such as designation and title may or may not be present.

2. Heading forms are classified according to two schemes: 1) the

form of the author's name, and 2) the presence/absence of certain data elements (e.g., dates, designations, etc.). The two schemes operate together to produce eight variations of heading forms ranging from single surnames alone to non-single surnames with form subheading(s). The basic sequence of headings with respect to each other is controlled by heading form. The various heading forms are independent of the entry type, i.e., they occur in both main and added entries.

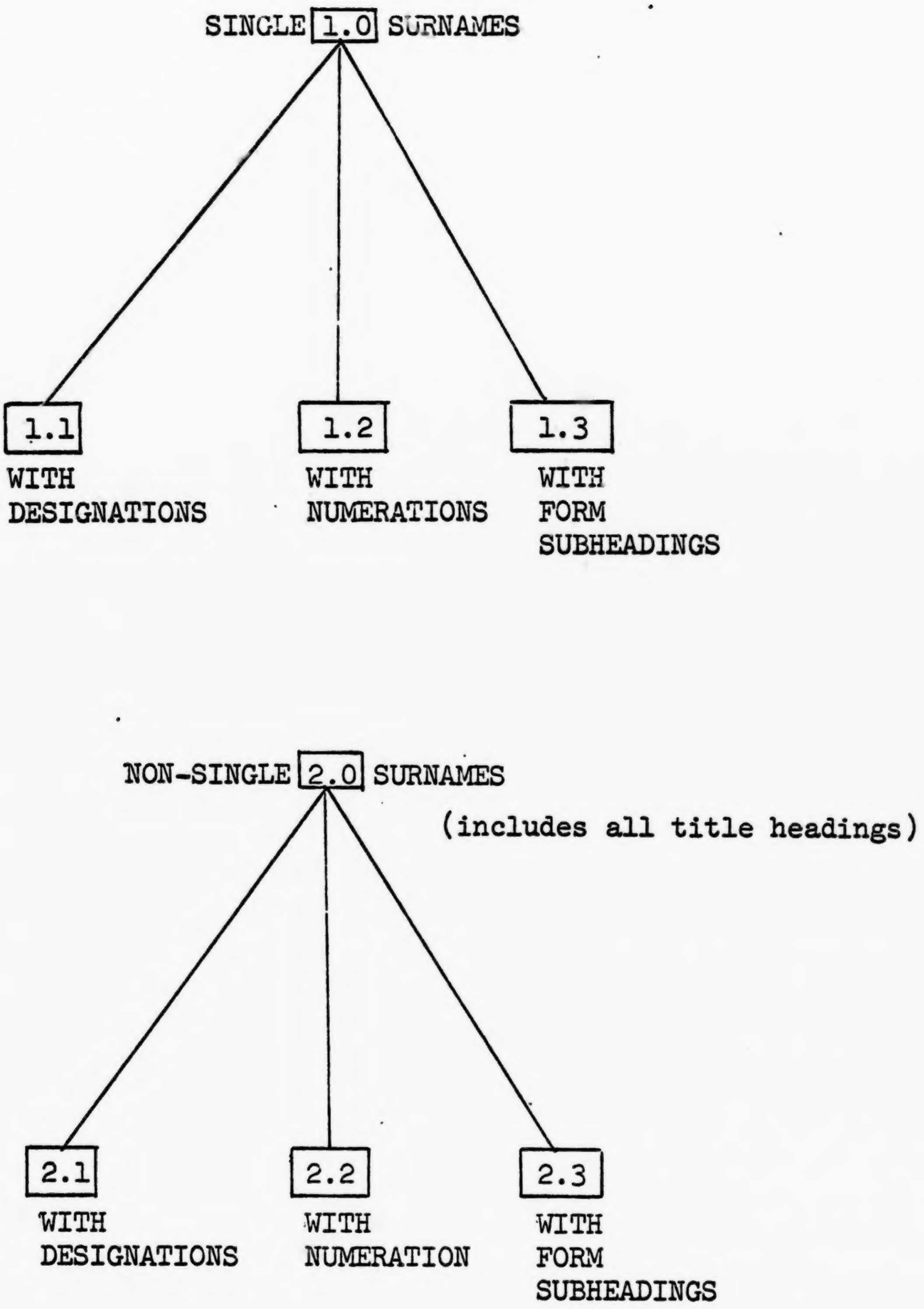
According to the ALA rules, single surname headings file before non-single surname headings (i.e., forename, compound, and multiple surnames) so that the single surname heading "London, Jack, 1876-1916," will file before the corporate author heading "London". Further, each form of heading may contain the following elements: dates, designation(s), numeration, form subheading and possibly a title. The presence or absence of these elements determines the order of similar headings within the same basic heading form. For example, "London, Jack, 1876-1916," a single surname heading with dates, files before "London, Jack, author," a single surname heading with a designation and no dates. The precedence code scheme necessary to produce the arrangements described above is shown in SYS Fig. 19.

3. Entry Type. Within the basic sequence established by heading form, entries are further grouped according to entry type or bibliographic function. As previously noted, bibliographic functions are independent of heading forms, e.g., there are both single surname subject added entries, and non-single surname subject added entries. Bibliographic function is reflected by grouping related entry types into five separate alphabets, as follows:

1) Author main entry, author/author-title alternate added entry, author analytic added entry and author-title series added entry;
2) Author/author-title connecting added entry;
3) Title main and added entry;
4) Title series added entry;
5) Subject added entry.

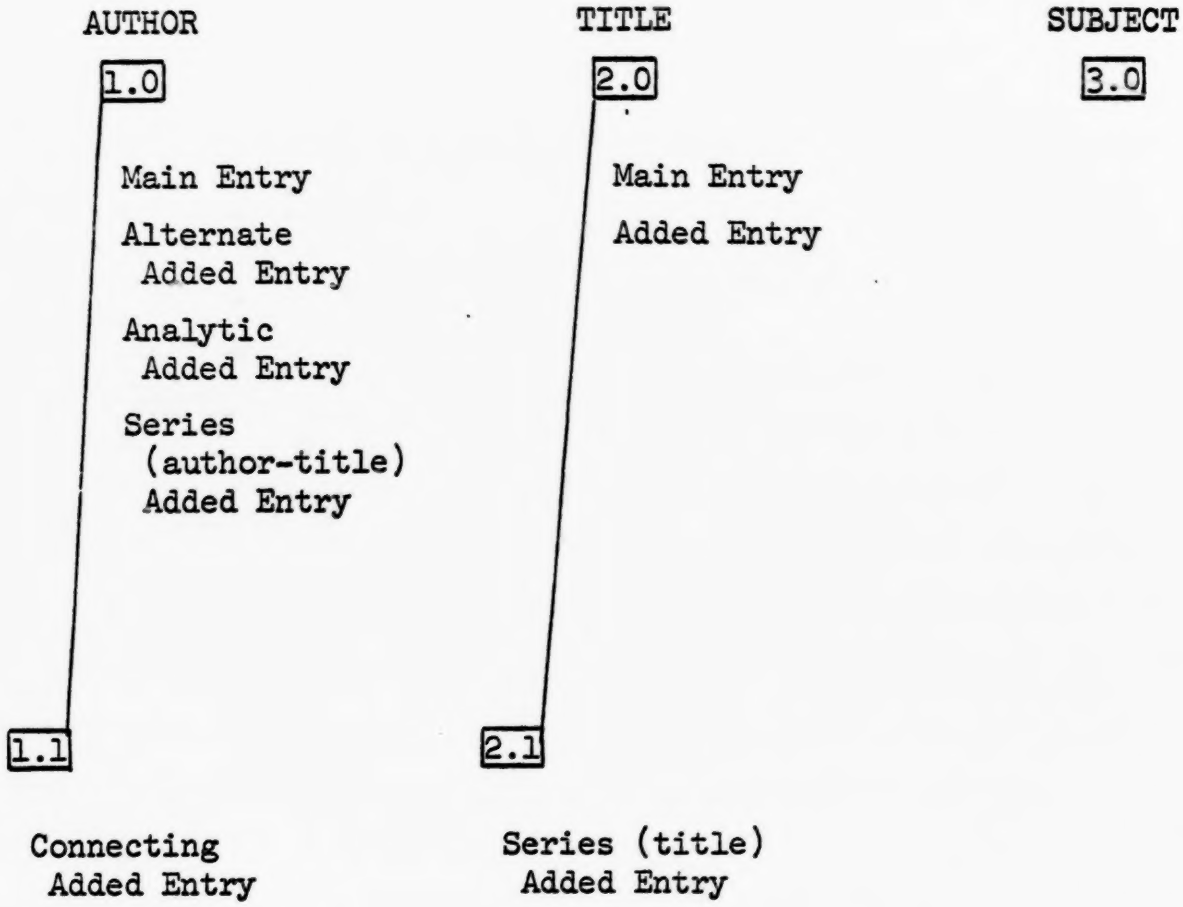
The function code scheme necessary to produce the five alphabet/group arrangement (listed above) of identical headings within the same heading form is shown in SYS Fig. 20.

PRECEDENCE CODE SCHEME


SINGLE 1.0 SURNAMES
1.1
WITH DESIGNATIONS
1.2
WITH NUMERATIONS
1.3
WITH FORM SUBHEADINGS
NON-SINGLE 2.0 SURNAMES
(includes all title headings)
2.1
WITH DESIGNATIONS
2.2
WITH NUMERATION
2.3
WITH FORM SUBHEADINGS

SYS Fig.19

FUNCTION CODE SCHEME


AUTHOR
1.0
Main Entry
Alternate Added Entry
Analytic Added Entry
Series (author-title) Added Entry
1.1
Connecting Added Entry
TITLE
2.0
Main Entry
Added Entry
2.1
Series (title) Added Entry
SUBJECT
3.0

SYS Fig. 20

SUBORDER ARRANGEMENT. Within the same alphabet/group (i.e., bibliographic function) there is another level of order - a suborder - by the body of the entry. The suborder of the entries is a function of the alphabet/group. The five suborder arrangements are as follows:

1) Author main, author/author-title alternate and author analytic added entries are subordered by title;
2) Author/author-title connecting added entries are subordered by main entry;
3) Title main and added entries are subordered by main entry;
4) Title series added entries are subordered by number or main entry and
5) Subject added entries are subordered by the main entry or title (user's preference).

EDITING. Sorting according to the prescribed collation sequence is not performed directly on the elements in the headings and suborder arrangements. Rather, it is applied to imaginary, or edited, headings and suborder arrangements mentally constructed, according to specific rules, by the filer. For example, the initial articles ('a', 'an', 'the' in English) in titles are disregarded in filing; the title "The Old Man and the Sea" files under "Old," not "The." In a computer filing system this mental juggling must be specified and programmed so that it can be performed by the computer. There are two major forms of editing: 1) words which are to be ignored or "disregarded", and 2) words which are to be modified, known as "file as" situations.

COLLATION SEQUENCE. As previously stated, the sequence in which characters are generally ordered by the computer in a standard sort is not acceptable for a non-standard sort required for filing catalog data. The collation sequence (i.e., the sequence in which characters should be ordered) for filing according to the ALA filing rules is as follows:

a. Alphabetical data are filed according to the order of the English alphabet.

b. Numbers are filed in numerical order.

c. A blank files before any other character.

d. All versions of each letter - upper and lower case, bold face, italics, Roman, etc. - have the same value for sorting purposes.

e. No sort sequence is prescribed for punctuation and diacritical marks; they are ignored.

BOOK CATALOG FORMAT (See Vol. 2, chapter FORM)

Within the context of output processing the book catalog format system incorporates all the functions necessary to transform a linear input data stream into a readable, esthetically pleasing, bibliographically correct printed page. The transformation occurs at three levels:

1. Characters
2. Data fields and subfields
3. Entries

Characters are transformed from computer codes into a suitable graphic representation. Alphanumerics translate quite directly, but punctuation and diacritics must be specially processed to map into the graphic symbol set available on different output devices. These symbol sets may vary widely in the progression toward more sophisticated typesetting equipment.

On the data field/subfield level, the input to the formatting system is a continuous data stream in the form of a MARC record. Each MARC record will carry supplementary identification to indicate entry type, catalog type, etc. Based on this identification, the format system will consult appropriate tables to determine how to break up the continuous data stream into a sequence of lines, indentations, vertical positions, and right or left justification. Transposing the data fields to print lines therefore requires determining:

1. First, whether to include the field/subfield in the printed output at all
2. Whether to begin a new line; and if so, what are the vertical parameters (single or double space down) and the horizontal parameters (flush left, indent, flush right)
3. What type font is to be selected for this field/subfield: all caps, underscore (italics), overprint (bold face)
4. What point size is to be selected, if point size options are available
5. Are there other typographic conventions or punctuation associated with the beginning or end of the field (initial dash, terminal comma, precede data field with a line of 5 asterisks)

6. Can this data field be separated into two lines if necessary; if so, any special indention for second line; if not how to handle oversize data fields.
7. Is data field repeatable, and if so how many repetitions are acceptable (e.g. accept only first three call numbers in union catalog record).
8. What is the relative order of data fields/subfields; call number first (shelflist), or last (book catalog).
9. Are there print messages associated with the data field/subfield depending upon entry type (e.g. see under).

This last determination is strongly related to the suborder arrangement within classed alphabet groups (see chapter FILE).

Thus far we have considered characters by themselves, fields and subfields composed of words, characters, and punctuation. Now we need to deal with entries as a unity of fields, subfields, words and characters. At the entry level we encounter the major impact of entry arrangement according to bibliographic filing rules. The impact is encountered at the level of trying to identify the alphabet groups created within major headings. Each separate "alphabet" is demarcated on the printed page by re-printing the major heading. The major heading is suppressed in entries within the alphabet. Example:

	Heading	
first alphabet	Entry 1 Entry 2 Entry 3	suppress heading
	Heading (see also the following)	
second alphabet	Entry 4 Entry 5 Entry 6	suppress heading
	HEADING (SUBJECT)	
third alphabet	Entry 7 Entry 8 Entry 9	suppress heading

The example shows that the heading is printed as a form of alphabet boundary. Further, the addition of print messages serves to identify the alphabet in question.

One final parameter of entry arrangement is page layout. The variables here are columns per page, characters per column, pagination, running heads, and whether to break an entry between the end of one column and the beginning of the next. SVS Fig. 21 is a sample page.

* * *

From the system point of view, the formatting program is designed to be the major generalized output vehicle for the entire system, whenever the printing of MARC records is to be done. As a minimum, the program will be used to print:

Printout	Subsystem
1. Master File--BRIDNO listing	File Maintenance
2. Catalog Cards (MARC)	File Maintenance
3. Subject Authority	Authority Verif.
4. Divided/Dictionary Catalogs	Output
5. Shelf list	Output
6. Main Entry Catalogs (with tracings)	Output
7. Serials Holdings	Serials

In short, any input in a MARC format, (but not necessarily monograph data) may be processed through the format subsystem.

SVS FIG. 21: STANFORD SAMPLE

SYMPHONIES--SCORES

Symphony no. 3 in E flat, op. 55, by Ludwig van Beethoven. With a biographical note by W. McNaught and an introd. by Gordon Jacob. Penguin, 1954. Miniature score (176 p.) M1001.B4 OP.55 P4

Symphony no. 4 in E minor, op. 98. By Johannes Brahms. E.F. Kalmus, 19--. Minature score (168 p.) M1001.B7 OP.98 K3

Symphony no. 5, op. 67, in C minor. By Ludwig van Beethoven. E.F. Kalmus, 19--. Miniature score (136 p.) M1001.B4 OP.67 K3

Symphony 8, "Unfinished," "Inacabada," in B minor. By Franz Peter Schubert. Boosey, 19--. Miniature score (64 p.) M1001.S375 D.759 B6

Third symphony in one movement. By Roy Harris. G. Schirmer, 1940. Miniature score (104 p.) M1001.H3 NO.3 S3

SYMPHONIES--TO 1800--SCORES

The symphonies of Joseph Haydn, by H.C. Robbins Landon. Universal Editions, 1955. 862 p.
First ed. of "Sinfonia" in Bb major in pocket. ML410.H4L28

The symphonies of Joseph Haydn. Supplement. By H.C. Robbins Landon. Macmillan, 1961. 62 p. ML410.H4L28 SUPPL.

Symphony no. 40 in G minor, K550. By Wolfgang Amadeus Mozart. E.F. Kalmus, 19--. Miniature score (66 p.) M1001.M92 K.550 K3

Symphony no. 41 in C major (Jupiter) K.551. By Wolfgang Amadeus Mozart. E.F. Kalmus, 19--. Miniature score (84 p.) M1001.M92 K.551 K3

Symphony no. 94 (London no. 3) G major (Surprise). By Joseph Haydn. Edited from the original ed. by Ernst Praetorius. E. Eulenberg, 19--. Miniature score (62 p.) M1001.H4 M.94 P7

SYMPHONY

18th century symphonies; a short history of the symphony in the 18th century with special reference to the works in the two series: Early classical symphonies and 18th century overtures. By Adam Carse. Augener, 1951. 75 p. ML1255.C3

Symphony, by Percy M. Young. With eleven drawings by Milein Cosman. Phoenix House, 1957. 155 p. ML1255.Y6

The symphony, edited by Ralph Hill. Penguin, 1950. 416 p. MT125.H5

The symphony writers since Beethoven, by Felix Weingartner. Translated by Arthur Bles. With twelve portraits. W. Reeves, 1906. 163 p. ML1255.W425

SYMPHONY ORCHESTRAS--U.S.

The American symphony orchestra; a social history of musical taste. By John H. Mueller. Indiana Univ. Press, 1951. 437 p. ML200.M8

SYNDICALISM

Proposed roads to freedom; socialism, anarchism and syndicalism. By Bertrand Russell. H. Holt, 1919. 218 p. HN15.R7

Reflections on violence. by Georges Sorel. Translated by T.E. Hulme and J. Roth. With an introd. by Edward A. Shils. Free Press, 1950. 311 p. HD6477.S5

SYNGE, JOHN MILLINGTON

Dramatis personae, 1896-1902. Estrangement. The death of Synge. The bounty of Sweden. By W.B. Yeats. Macmillan, 1906. 200 p. PR5906.A537

John Millington Synge, by Denis Johnston. Columbia Univ. Press, 1965. 48 p. PR5533.J6

John Millington Synge and the Irish Theatre, by Maurice Bourgeois. B. Blom, 1965. 337 p. PR5534.B6

John Millington Synge, by Donna Gerstenberger. Twayne, 1964. 157 p. PR5534.G4

Synge and Anglo-Irish literature; a study. By Daniel Corkery. Russel & Russell, 1965. 247 p. PR5533.C6

Synge and Anglo-Irish drama, by Alan Price. Methuen, 1961. 236 p. PR5534.P7

SYNODS

See Councils and synods.

SYNTACTICS

See Semantics (Philosophy).

SYRIA--BIBLIOGRAPHY

Jordan, Lebanon and Syria: an annotated bibliography. By Raphael Patai. HRAF Press, 1957. 289 p. Z3013.P3

SYRIA--DESCRIPTION

Oriental encounters, Palestine and Syria, 1894-1896. By Marmaduke Pickthall. New and cheaper ed. A. A. Knopf, 1929. 277 p. DS107.P6

The Syrian desert; caravans, travel, and exploration. By Christina Phelps Grant. A. & C. Black, 1937. 410 p. DS94.G75

SYRIA--HISTORY

An Arab-Syrian gentleman and warrior in the period of the crusades; memoirs of Usamah Ibn-Munqidh. Translated from the original manuscript by Philip K. Hitti. Columbia Univ. Press, 1929. 265 p. DS97.U5

History of Palestine and Syria, to the Macedonian conquest. By A.T. Olmstead. C. Scribner, 1931. 664 p. DS121.O4

History of Syria, including Lebanon and Palestine. By Philip K. Hitti. 2d ed. Macmillan, 1957. 750 p. DS95.H5

The struggle for Arab independence; Western diplomacy & the rise and fall of Faisal's kingdom in Syria. By Zeine N. Zeine. Khayat's, 1960. 297 p. DS98.Z4

Syria and Lebanon under French mandate, by Stephen Hemsley Longrigg. Oxford Univ. Press, 1958. 404 p. DS98.L6

PRODUCTION AND CONTROL

Containing the problems and recommended procedures of production and control of source documents during the conversion process.

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I. INTRODUCTION

This section first outlines general problems of production and control of source documents used in converting library catalogs. Proposed procedures are outlined. Briefly, the general problems and the procedures recommended are:

Problem: Which entries and which catalogs are to be converted?
Recommendation: That main entries of the catalog are to be selected and converted.

Problem: Would original cards or reproductions of the original be used for conversion?
Recommendation: That the original card be reproduced on a pre-printed coding sheet.

Problem: What basic control device will be used throughout?
Recommendation: That a sequential numbering machine be used to control all cards for general inventory and refiling purposes.

* * * *

II. GENERAL PROBLEMS

WHAT IS TO BE CONVERTED? There are two questions involved here: 1) the type of entry and 2) the catalog.

Type of Entry. Main entries are the only ones which need to be converted, as long as they include tracings for all added entries. The added entries themselves will be constructed from identified fields in the computer file, and they will be interfiled where they should appear in the book catalog.

Catalog. Ideally, the catalog to be converted would have only main entries. Since the existence of such a catalog is rare, the choice of the best catalog for conversion in a given library will depend on such questions as:

1. Are all main entries included?
2. How many total cards? Of these, how many are main entries?
3. Which catalog is the most up-to-date on conversion day?
4. Divided or dictionary catalog?
5. Physical proximity of catalog to place of preparing conversion documents?
6. How crucial is daily filing of new entries to the catalog? (A public catalog, for instance, probably cannot afford to defer filing for any length of time).

For example, with respect to CSL, the 'Index' or Official Catalog would be the best one to convert (assuming that main entry cards up to 1940 without tracings are exchanged for main entry cards with tracings in the public catalog).

REPRODUCTION OR ORIGINAL CARD USED IN CONVERSION? We strongly recommend the use of a reproduction of the catalog card (rather than the original card itself) during conversion because it would minimize the time pressure during conversion, it would provide security for the originals (particularly those without duplicates), and it would preserve clean originals.

Security. By using copies instead of original cards, the catalog containing the originals can serve as a control and recovery file for possible loss or incompleteness of records during the conversion process. (Control within the computer file is not possible until the records are verified and adequate back-up is established.) Furthermore, the use of copies requires neither the existence nor the use of duplicate files.

Clean Originals. Editing reproductions of the cards would preserve clean original cards, except for the control numbers. (However, even the control numbers should not interfere with the information proper if they are entered in a different color ink and in a standard position on the cards all the time.)

Time Pressure. Presumably the initial input (if not the corrections as well) of the bibliographic data will be batch processed, and batch processing involves an extended time for completing each batch, particularly those batches with records that have to be recycled. One question immediately arises: Can regular operations afford to be without the records in a batch while that batch is being converted?[1] If the answer is no - and presumably it will be - then this necessitates the use of reproductions instead of original cards; the pressure in conversion time would be minimized because the records would not need to be simultaneously available for regular and conversion operations.

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[1] This question assumes, of course, that either a duplicate file does not exist or that, if it does exist, it cannot be used for regular operations while the original is in conversion. "Regular operations" refers to normal daily use by both the public and the staff.

Coding. In addition, we recommend that the reproduction be made onto an 8 1/2" x 11' sheet which would contain (along with the blank space for the catalog card) a checklist of descriptors applying to the card (i.e., the 'I-Fields'), these descriptors being part of the full set of MARC data elements. PROD. Fig. 1 shows the pre-printed coding sheet.

The prime advantage of the coding sheet is that it combines in a single easily read, easily filed record all the data elements in a given bibliographic record. The other alternative open to libraries converting to MARC is to write the added descriptors on the card itself, in addition to writing the codes for the data elements on that card. The problems in doing this are: 1) lack of space on the card; 2) illegible handwriting (this wouldn't be as much of a problem with the coding sheet because the descriptors to be checked or filled in are preprinted); 3) time (it would be quite time-consuming for the editors to write in both the code word and the data).

WHAT BASIC CONTROL DEVICE IS TO BE USED THROUGHOUT CONVERSION? The basic control device proposed for conversion processing consists of two different sequences: 1) numbering all the cards (main and non-main entries) in the catalog or file drawer(s) sequentially as of conversion day, and 2) numbering all main entry cards pulled out in a separate sequence. In both cases a new number is assigned to each card - not to each entry or title. These numbers will link each card to the original file and will maintain the sequence of the file and the sequence of main entries and extensions. Such numbering will also match rectos and versos of cards and will identify records both manually and within the computer. Once such numbering is accomplished, any record or card can be interfiled, referred to, located, recovered, or counted solely by use of these control numbers.

There are five possible combinations of MAIN ENTRY rectos, extensions and versos:

1. Recto alone
2. Recto with Extension
3. Recto-Verso
4. Recto-Verso with Extension
5. Recto with Extension-Verso

The control device and associated procedures will handle all five combinations.

During conversion, control of catalog cards already in file order need not be the same type of control as that based on the original cataloging and filing rules. It would be simpler to use the sequence and number of cards in the catalog on conversion day as the basic means of control. (The same approach would apply to the conversion of the catalog by sections). Also, the numbering and control need not be done by a librarian knowledgeable in cataloging or filing rules.

Control by Cards. The control system presented here is primarily by cards and secondarily by titles. Control by titles, rather than cards, would require imprinting refile numbers on the front of every card before reproduction. It also would require additional selecting of all extension cards before numbering main entries, and then separate reproduction and separate refiling of both the catalog cards and the reproduced extension sheets by refile number. This additional handling can be avoided by transferring the control of titles to the later keying and computer tallies.

The reconciliation of cards to titles is a matter of accounting for control numbers imprinted on extension cards. This will be accomplished as an editorial function. Editors will delete the serial numbers on extension cards, and will code the number of cards in the catalog card set. This code will be entered only when there is more than one card in the set.

CSL PROCESSING CENTER
INPUT CODING SHEET:
MONOGRAPHS

PROD Fig. 1

● Date 1	Date 2

THE CATALOG CARD WILL BE REPRODUCED
IN THIS SPACE.

● DATE TYPE:

bc	2 dates: 2d is ©
bm	multiple date span
bn	date not known
bq	digits missing
br	prev. published

ca	LC call no. is bracketed

CATALOG SOURCE:

ea	NAL
eb	NLM
ec	Coop. Cat.
ed	NUC
ee	other
ef	orig. cat.

FORM OF REPRODUCTION:

ga	microfilm
gb	microfiche
gc	micro-opaque
gd	large-print

CONTENT FORM:

ha	abstracts
hb	bibliographies
hc	catalogs
hd	dictionaries
he	encyclopedias
hh	hndbks./manuals
hi	indexes
hp	progrmmd. texts
hr	directories
hs	statistics
hy	yearbooks

TYPE OF WORK:

ia	juvenile
ib	fiction
ic	autobiography
id	biog.-indiv.
ie	biog.-coll.

● TYPE OF ADDED ENTRY:

Series traced same as note	ja										
Series traced differently from note	jr										
Subject headings and subdivisions	jm										
Non-subject/non-series tracings	jq										

GOVERNMENT PUBLICATION:

ka	U.S. Federal
kb	Cal State
kc	Cal Co./Muni.
kd	international
ke	other govts.

ma	conference pub.
na	non-keyable data
qa	cancel title added entry same as title
ra	card lacks title traced same as short title

sa		%	lang.

ta	translation

MAIN ENTRY HEADING:

● ua		type of main entry
ub		m.e. is subject
uc		m.e. is publisher
ud		m.e. repeated in body

HOLDINGS:

	System ⬤	+Br ⬤	Total Copies Here
⬤ wa			
wb			
wc			
wd			

⬤ EDITOR

Mo.	Day	Yr.	Minutes

KEYPUNCHER

Mo.	Day	Yr.	Minutes

⬤ = must always be filled in
● = must frequently be filled in

III. METHODS FOR HANDLING PRODUCTION/CONTROL

This section discusses the methods for handling the three production/control problems outlined in the preceding section: a) main entries, b) reproduction of cards, and c) numbering of cards. This section should be read in conjunction with the next one - Procedural Specifications; there is much overlap between the two. A flow chart of the entire reproduction process appears at the end of this section (Fig. 2)

* * *

A. MAIN ENTRIES

The chief concerns about main entries are that: 1) the card catalog selected for conversion has 'full' main entries and that control for all cards is established; 2) all main entries and only main entries are selected and are reproduced; 3) all versos of main entries are selected, reproduced and matched to their corresponding rectos; 4) all cards are refiled. Each of these is outlined separately below.

1. The catalog to be converted must have 'full' main entries, and control of cards must be established. The appropriate procedures are:

   a. Verify that main entries are 'full,' i.e. that they contain all tracings and descriptive cataloging.

   b. Sequentially number ALL cards (main and added entries) in the catalog or (if the conversion is being done in sections) file drawer(s) for refiling.

2. All and only main entries must be pulled out and reproduced. The appropriate procedures are:

   a. Select main entries INCLUDING all extensions.

   b. Sequentially number all selected main entries (FRONT AND BACK) in exact correspondence.

   These numbers will serve as an identifying record number in the computer, as a link to the original card for location and possible recovery, as a sequencing of extensions, and as an implied control count throughout processing.

The purpose of numbering the backs of all main entries (whether they have text or not) is to insure that every verso will link exactly to its recto, even if it is an extension card. Although the estimated number of verso texts (minor or major) is only 22%, the total time for numbering 250,000 versos is only about 2 1/2 days on the numbering machine.* This extra cost is more than offset by the ease and accuracy with which any clerical person can link versos to rectos by explicit numbers.

c. Reproduce fronts of all main entries.

Recto now has main entry number, verso has refile and main entry number. At this point, all main entries should have been selected, numbered, and rectos reproduced.

3. All versos of main entries must be selected, reproduced, and matched to their corresponding rectos. The appropriate procedures are:

a. Select all cards with any data on the verso.

b. Count all versos to establish control.

c. Reproduce all selected versos.

Once copied, the verso main entry numbers corresponding to the recto main entry numbers will allow exact matching of verso sheets, whether on the back of a single or extension card of a title. In this way, all versos are selected, copied, and matched.

4. All cards must be refiled correctly. The appropriate procedures are:

a. Refile non-verso main entries after they have been numbered.

Refiling is basically a merge controlled by sequential refile numbers initially applied by machine on the back of every card, (non-main as well as main entry) and hence can be done by someone not trained in library filing rules.

b. Refile main entry cards after rectos and versos have been numbered and reproduced.

c. Verify that all cards have been refiled (if deemed desirable) by machine counting.

Periodic sight checking is advisable to ensure that the machine count corresponds to sequence numbers. (The sight checking will not, however, verify that all cards are in exact sequence.) In this way all main entries are refiled with maximum accuracy.

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*The figures given here are taken from the CSL Index Catalog (which has 450,000 cards, 250,000 of which are main entries) and are used just for illustration.

Entries added after conversion started. In each catalog there will be three kinds of inputs, defined here by their relationship to the conversion process: a) ORIGINAL - entries in each particular catalog or file drawer(s) on conversion day, b) INTERIM - entries added to particular catalog while the conversion of that same catalog is going on, and 3) POST - entries added to each particular catalog after it is converted until the day other catalogs are completed or until the cut-off day for the entire book catalog.

Different handling will be needed for each of the three types of conversion entries when one or more of the following is applicable: 1) whenever more than one card catalog is being converted; 2) when different catalogs are not the same size; 3) when not all catalogs are converted simultaneously; and 4) when the cut-off day of the book catalog differs from the actual day the last card catalog is completed.

Original entries are discussed in Section IV: Procedural Specs. Entries after the conversion of a particular catalog has started - the interim and post conversion entries - are discussed below.

As soon as conversion is started, duplicate copies of all interim and later post entries can be made and accumulated separately, without alphabetical interfiling with the originals. Keeping non-main entries in a different place from the regular catalog after the main entries are selected from them will insure that new entries are not interfiled. The non-main entries can still be available for reference, but not for interfiling new entries. Any new entry can be stored alphabetically in a work tray covering that section of the catalog corresponding to the work batch. When it is verified that the original cards have been completely refiled, the new entries can be interfiled immediately.

When all original entries are completed, then interim entries can be converted, and later, post entries can be converted up through cut-off day of the book catalog. With this approach, interfiling of new entries can be made immediately as in regular operation on a continuous basis, whether it be a public or non-public catalog.

By converting all interim entries after original entries are completed, approximately half of the interim titles (an estimated 3,000) will be converted in duplicate. These duplications will be due to the conversion of new, or interim, entries already interfiled with original entries before the conversion process reaches that section of the catalog.

The duplications, however, will not have to be handled on a solely manual basis. The computer program will consolidate such duplicates along with duplicates and variants of entries from the same or other catalogs. The added cost for converting some interim entries twice will be offset by the extra cost of control and selection and delay time which otherwise would be required.

All post entries are converted from accumulated copies of new entries, but a later cut-off time, and (being done after the catalog as a whole is completed) without any duplicate conversions for the same catalog.

This approach of saving all copies of new entries from the first conversion day forward for each catalog allows one basic sequence of conversion, with the originals converted first, then interim, and finally post entries. This sequence minimizes the interference of the conversion process to regular operations.

B. REPRODUCTION OF CARDS

Two types of reproduction are recommended: 1) reproduction of rectos (both original and extension) onto preprinted coding sheet (i.e., editing template) controlled by sequential main entry numbers on each card, and 2) reproduction of versos without editing template (to distinguish from rectos of extensions), controlled by pre-machine count within a range of main entry numbers.

We recommend any model of a Xerox dry photo-copier (preferably one with a hopper-fed attachment) which would allow pre-drilled, 3-hole 8 1/2 X 11 paper, pre-printed with the editing template (e.g., model 2400).

The hopper fed attachment, however, may not be available from the manufacturer soon enough on reasonable cost machines. If this is the case, and such a hopper cannot be engineered locally, reproduction can proceed with continuous manual replacement of cards on a xerox machine. With such manual feed, the template information can be positioned on the reproduction glass rather than preprinted on the paper stock.

C. NUMBERING AS A CONTROL DEVICE

Two sequences of machine-numbering are recommended for control, and both of these are numbers assigned to the card, not to the title with its possible versos or extensions. The first sequence is that of numbering all cards in the file drawer(s) (both main entries and non-main entries) from which one batch of main entries will be prepared for editing. The second sequence follows the first, and it consists of numbering all the main entry cards which have been selected; again, each card (and not each title) will be assigned a new number. In each sequence the number is to be placed in a different position on the card so that there will be no confusion. In the first sequence the numbering starts with the last card first, and in the second sequence the numbering starts with the first card. Each sequence is discussed separately below.

1. Sequentially number all cards (main entries and non-main entries) in the file drawer(s) from which a batch will be prepared, numbering the last card in the file drawer(s) first. Number each card on the back, in a position least interfering with information and easiest for refiling main entries. The upper left position [in relation to the guard hole] of the card in the opposite direction from verso text satisfies these requirements. See PROD Fig. 3 for examples.

The exact position (which will be fixed) of the last number in the string depends on the number of digits in the string which depends on the number of volumes in a given library. For instance, a library with holdings totaling in the five digits will begin the numbering 5 spaces to the right of the upper left corner. The numbering can start again at No. 1 each day or can be maintained sequentially throughout the conversion.

2. After all main entries have been selected, sequentially number each card belonging to a main entry. Each card should have the same number on the front and on the back in these positions and direction of text: (See PROD Fig. 3 for examples)

FRONT - Upper right relative to the guard hole, in the direction of text.

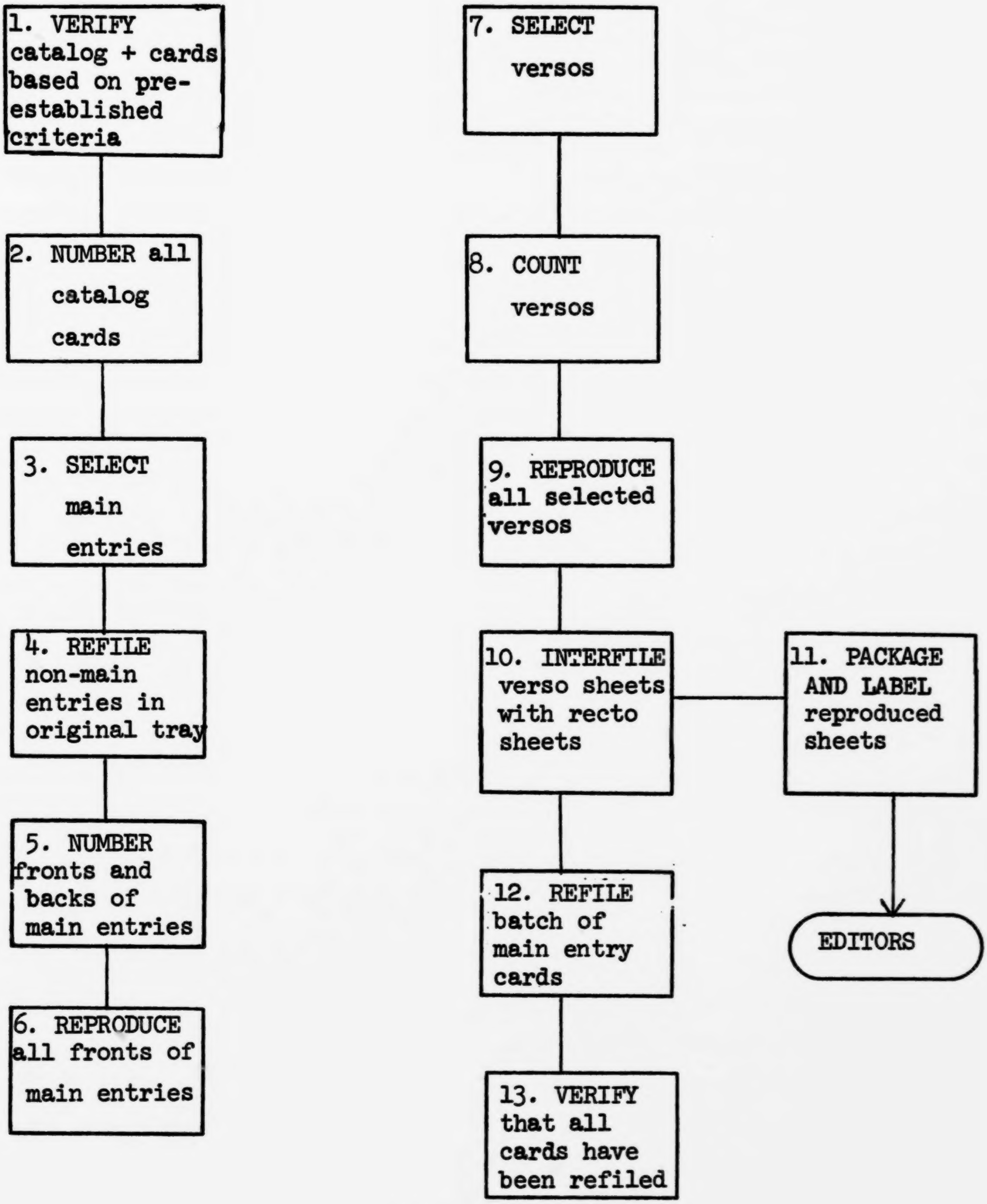
BACK - Right of guard hole, relative to direction of text.

A fixed number of digits for all main entries is recommended because it will reduce the probability of keying in the wrong number of high order zeros. The number of digits fixed upon will be determined by the expected number of volumes to be converted by a given library.

Numbering Machine. A Cummins Tallyprinter, model 272 with consecutive numbering, is recommended as the machine with the best performance characteristics for the numbering task. The machine has high reliability, automatic cut-off in output hopper, variable horizontal positioning of imprint, and a feasible rate of 15,000 cards per hour.

Numbering on the front is done in one pass through the machine; numbering on the back is done in another pass. The back numbers are kept accurate by checking the machine counter, and verifying that imprinted start and end numbers match those on the front.

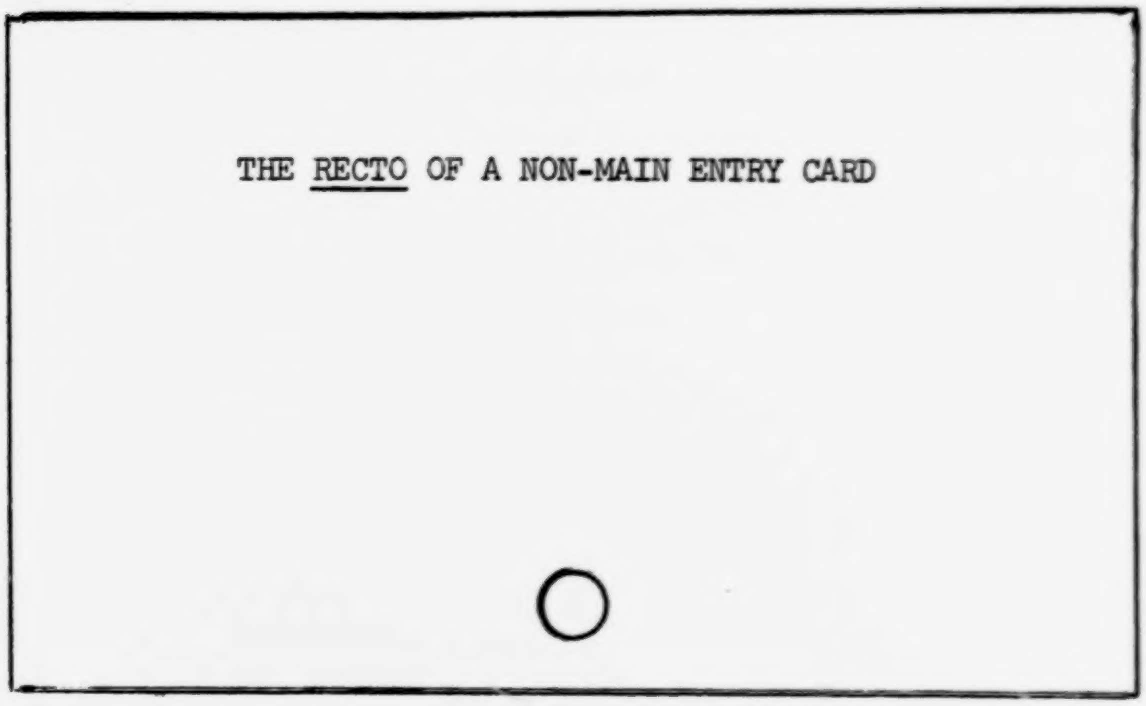
PROD Fig. 2: FLOW OF CARD REPRODUCTION*


1. VERIFY catalog + cards based on pre-established criteria
2. NUMBER all catalog cards
3. SELECT main entries
4. REFILE non-main entries in original tray
5. NUMBER fronts and backs of main entries
6. REPRODUCE all fronts of main entries
7. SELECT versos
8. COUNT versos
9. REPRODUCE all selected versos
10. INTERFILE verso sheets with recto sheets
11. PACKAGE AND LABEL reproduced sheets
EDITORS
12. REFILE batch of main entry cards
13. VERIFY that all cards have been refiled

* The numbers in the flowchart indicate the number given to the process in the cost/time estimate (PROD Fig. 4).

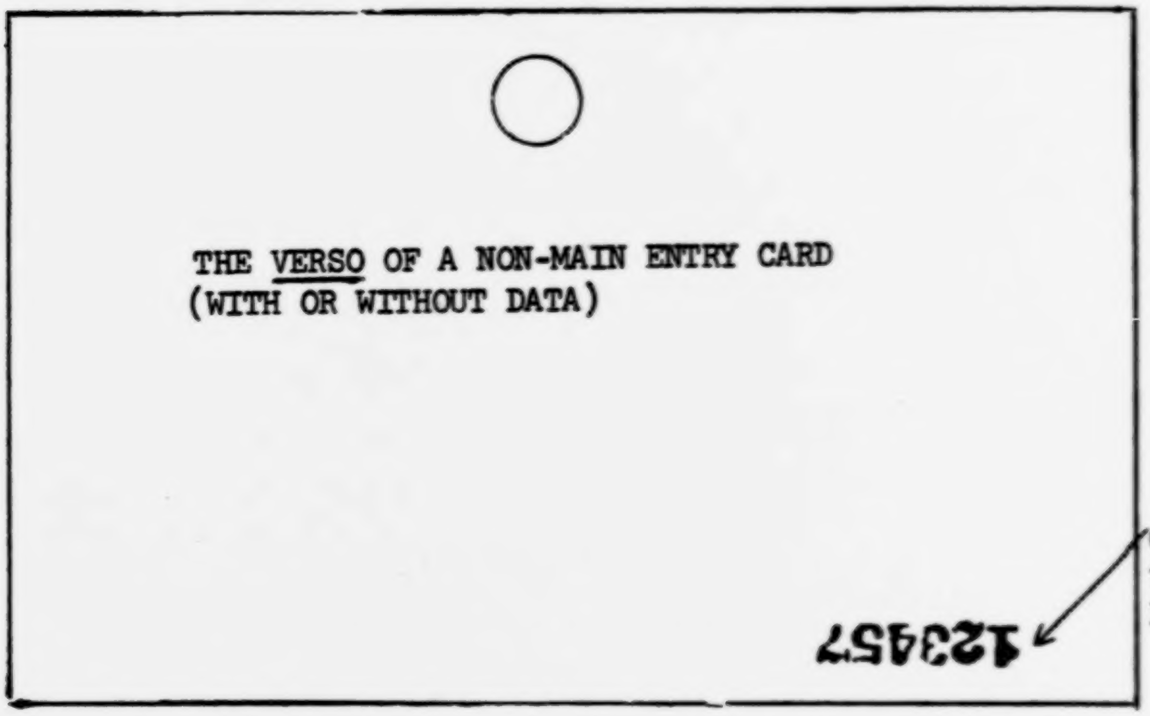
PROD FIG. 3 : NUMBERING SEQUENCES

CARD 1: NON-MAIN ENTRY RECTO


THE RECTO OF A NON-MAIN ENTRY CARD

(Note that this card has no control number)

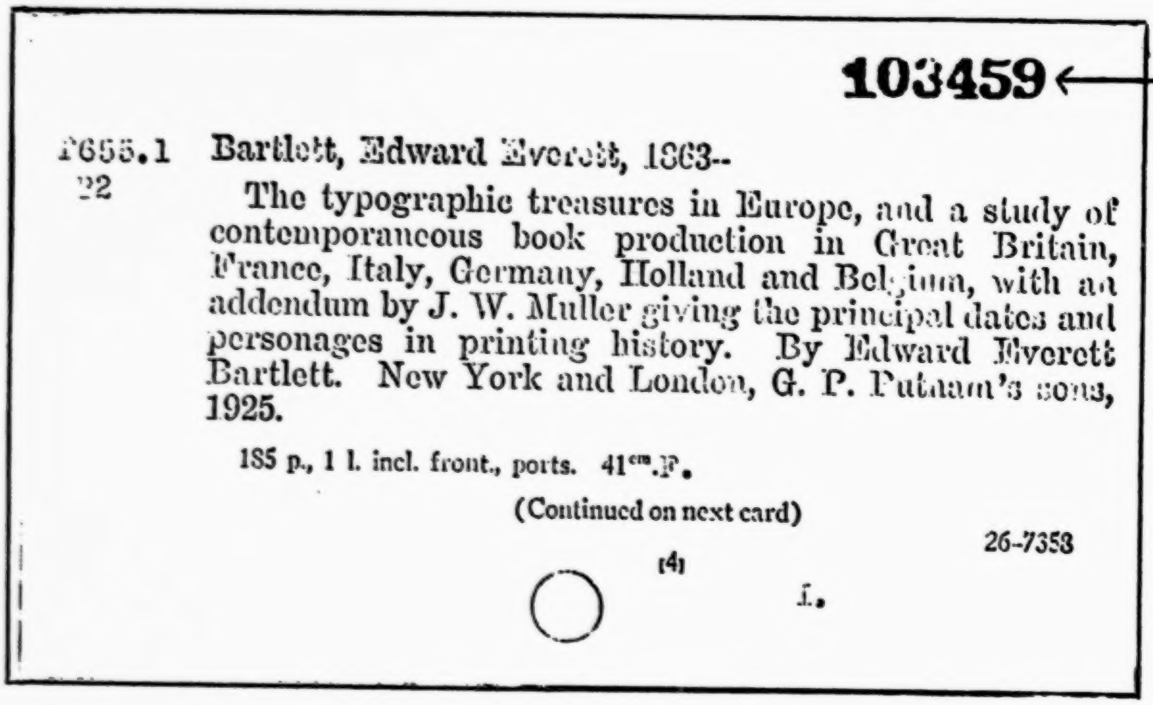
VERSO OF CARD 1


THE VERSO OF A NON-MAIN ENTRY CARD
(WITH OR WITHOUT DATA)
1234567

Card No. Assigned to ALL CARDS in File Drawer(s)

PROD FIG. 3 (CONT.)

CARD 2: MAIN ENTRY CARD WITH CONTINUATION (see card 3)



103459

Z655.1
B22

Bartlett, Edward Everett, 1863-

The typographic treasures in Europe, and a study of contemporaneous book production in Great Britain, France, Italy, Germany, Holland and Belgium, with an addendum by J. W. Muller giving the principal dates and personages in printing history. By Edward Everett Bartlett. New York and London, G. P. Putnam's sons, 1925.

185 p., 1 l. incl. front., ports. 41cm. F.

(Continued on next card)

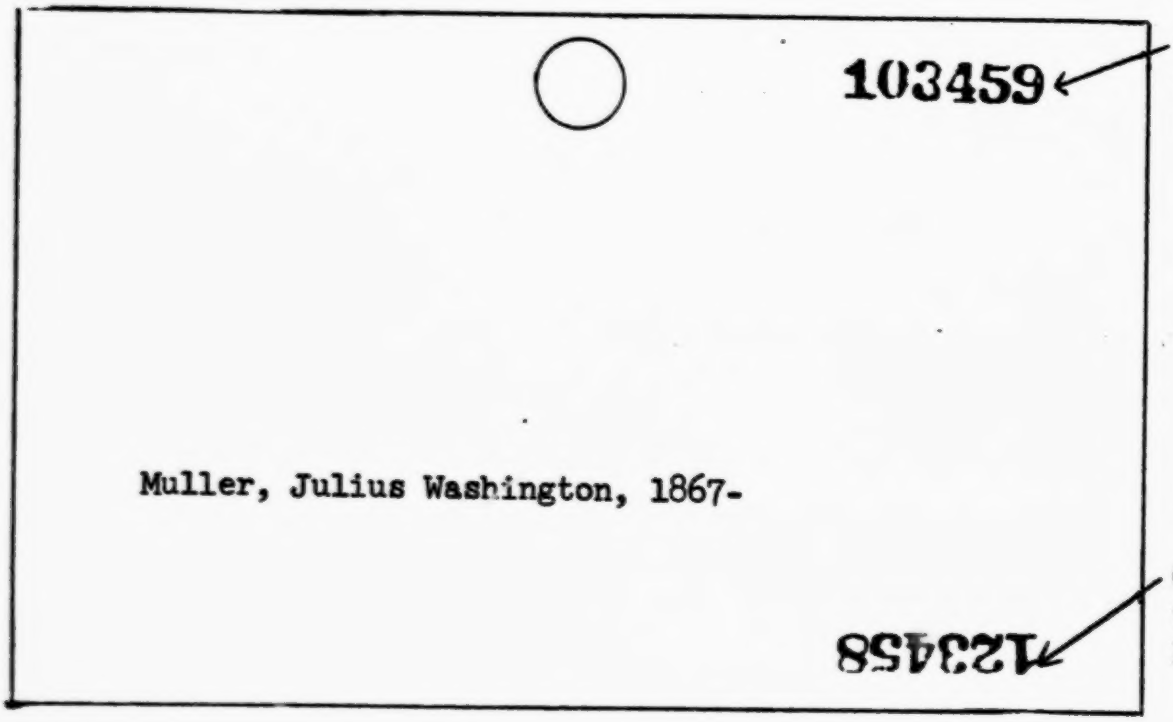
26-7353

[4]

i.

Card No. Assigned to all MAIN ENTRY Cards

VERSO OF CARD 2



103459

Muller, Julius Washington, 1867-

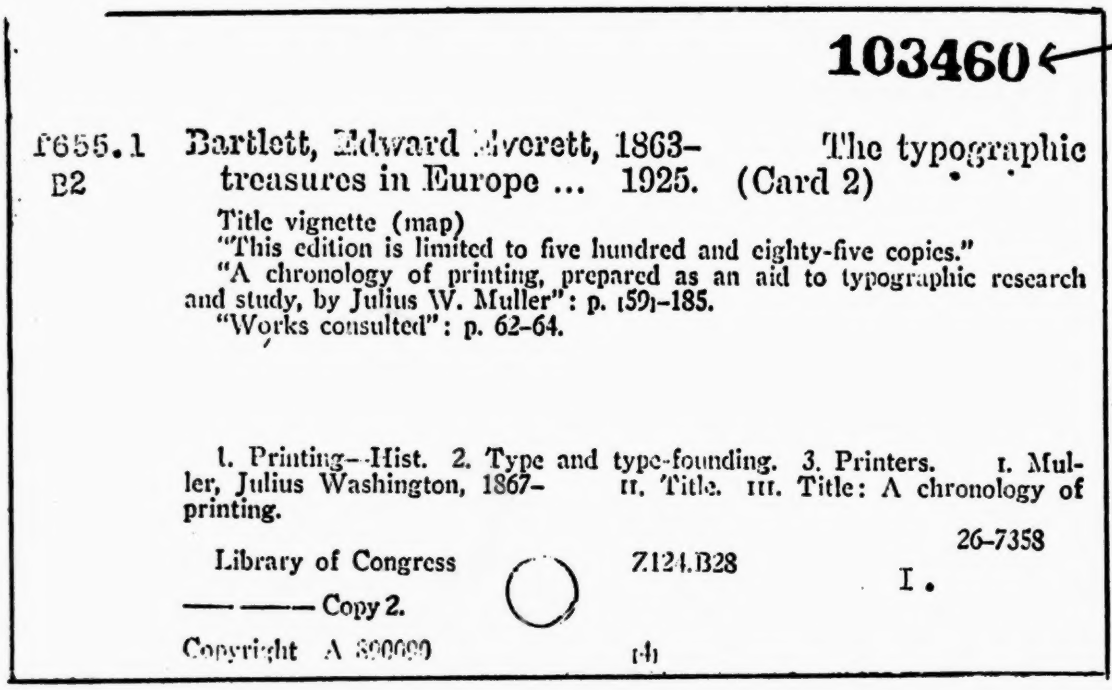
123458

Card No. Assigned to all MAIN ENTRY Cards

Card No. Assigned to ALL CARDS in File Drawer(s)

PROD FIG. 3 (CONT.)

CARD 3: CONTINUATION OF CARD 2



103460

f655.1
B2

Bartlett, Edward Everett, 1863- The typographic treasures in Europe ... 1925. (Card 2)

Title vignette (map)

"This edition is limited to five hundred and eighty-five copies."

"A chronology of printing, prepared as an aid to typographic research and study, by Julius W. Muller": p. [59]-185.

"Works consulted": p. 62-64.

1. Printing--Hist. 2. Type and type-founding. 3. Printers. I. Muller, Julius Washington, 1867- II. Title. III. Title: A chronology of printing.

26-7358

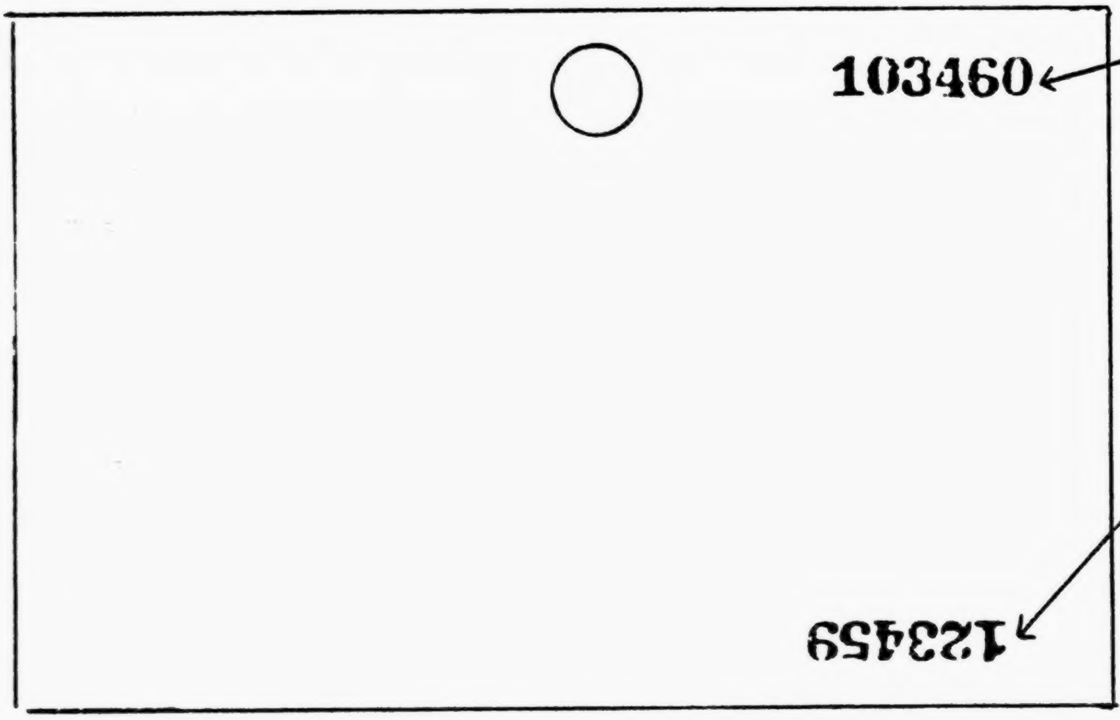
Library of Congress Z124.B28 I.

—— —— Copy 2.

Copyright A 890090 [4]

Card No. Assigned to All MAIN ENTRY Cards

VERSO OF CARD 3



Card No. Assigned to all MAIN ENTRY Cards

Card No. Assigned to ALL CARDS in File Drawer(s)

IV. PROCEDURAL SPECIFICATIONS IN OPERATIONAL ORDER

These thirteen procedures describe the working process of obtaining source copies of the original catalog. With minor modifications when scattered titles are involved, they also apply to the process of obtaining copies of exceptions, as well as interim and post entries. A procedure is considered a separate step when there is a transfer in effort to another person, machine, time, or place or when there is a separate but essential result in control. With such separations, a control result does not depend necessarily on the amount of effort to achieve it.

Some steps, for example, are relatively simple in effort, but they still achieve distinct, new control results. Other steps represent major effort although their separate control results are relatively simple. To illustrate: Step 4 (refiling of non-main entries) is simple in effort but achieves the separate essential control result of returning a portion of the catalog to regular use. By contrast, Step 6 (reproduction of fronts of main entries) represents a major effort, yet it achieves only the single control result of reproducing all main entry fronts.

The steps have been chosen to achieve the best feasible operation in cost, time, and accuracy. The actual rate, of course, at which the work is done depends on the number of people involved and the maximum rates attainable by each machine. The steps outlined here should give optimum results whether the number of cards processed in each batch is large or small. The estimated cost of each step appears in Fig. 4.

STEP 1: VERIFY THAT CATALOG CONTAINS 'FULL' MAIN ENTRY CARDS. In the California State Library Index Catalog, the main exception to 'full' main entries (i.e. those with all tracings and descriptive cataloging) seems to be the cards prior to 1940 which were typed without tracings. These exceptions might be handled at three points in the process: a) prior to the whole process; b) after main entries are selected; c) by editors as exceptions to be searched and reprocessed along with other corrections. The three alternatives are discussed separately below.

a. Exchange of exceptions prior to the whole process would entail a search of the whole Index Catalog (in the California State Library) as well as insert for removed cards, search of the Public Catalog, and exchange and refile when exceptions with tracings are found. A high estimate for the number of such exceptions is 3,000, or 2% of 150,000 entries as of 1940. This is an insignificant figure compared to the 450,000 total cards in the Index Catalog which would have to be searched.

b. The effort of a separate search could be reduced by a half by searching for exceptions after selection of main entries (Step 3). Such an approach, however, would mean that the numbering of main entries would have to wait until the search for exceptions and exchanges was completed.

c. The separate search could be eliminated altogether (as could any further effort in refining the estimate of the number of exceptions) by transferring the search for exceptions to editors. They will be reading every sheet in detail anyway and could easily note the entry number for any exception for recovery and reprocessing. This process would be more economical and probably more accurate. (If this verification by the editors is required, it should be noted in the Coding Manual's general instructions section - see chapter CODE).

STEP 2: NUMBER ALL CATALOG CARDS. A different sequential number must be given to all catalog cards (main and non-main entries) in the catalog or file tray(s). The reason for numbering all catalog cards is to establish a continuous sequence of numbers by which main entries, once withdrawn, can be refiled. By using only these refile numbers, main entries can be reinserted accurately and quickly by someone not knowing the original cataloging and filing rules.

The numbers can be imprinted on the back of each card in upper left position relative to guard hole, in reverse direction of possible verso text. This position interferes least with possible text. Being upside down, the number does not interfere with later editing and keying, and is in the most easily visible position for refiling backward in the number series. See the previous discussion of numbering.

It is recommended that all cards in one tray be imprinted with refile numbers at one time. It is also recommended that only as many trays be imprinted as can be fully numbered and reproduced per day (or, for whatever length of time is acceptable for having full trays out of operation.) At a rate of 15,000 per hour, the numbering can be completed very quickly. The rate of reproduction will determine how many trays are feasible per day.

The control can be minimal: combined report and log of what numbers have been done, plus visual verification that machine counter and imprinted series of numbers coincide.

STEP 3: SELECT MAIN ENTRIES. After all cards of a catalog drawer are given a refile number, main entries are selected. This selection is most crucial because only what is selected at this point will be in the book catalog. A verification, therefore, is recommended of the cards not selected, to insure that all main entries have been selected. Non-main entries wrongly included or extensions omitted (which can be inferred) can be handled and recovered later by editors. It is recommended, then, that selection of main entries be done by someone who can adequately distinguish between main entries and added entries of the catalog. Further, if there is ever to be a verification of any selection process, it would be most appropriate to do it at this point by verifying whether any main entries have been overlooked. This can be done by checking the entries not chosen; incorrectly chosen non-main entries may be noted later by editors.

STEP 4: REFILE NON-MAIN ENTRIES. Once the main entries have been selected and verified, non-main entries can be returned in original tray for reference, but not yet for interfiling. Main entries are carried forward in a work tray marked with parallel drawer number.

STEP 5: NUMBER FRONTS AND BACKS OF MAIN ENTRIES. Every card in each group of work trays with main entries to be processed per day (or work period) is numbered by machine first on the front (at the upper right position relative to guard hole and in direction of text) and secondly on the back (to the immediate right of the guard hole relative to direction of text.) The numbers on the front and back of a given card are exactly the same numbers. With an estimated 545,000 main entries in all catalogs, a six digit number is recommended, starting with 100,000 for the first catalog. This will insure the same number of explicit digits for all later keying. See the previous discussion of the numbering system.

The control for front and also back numbering can be a further addition to the refile number report and log, plus periodic sight checks to ensure that both front and back card numbers are moving forward exactly parallel.

STEP 6: REPRODUCE ALL FRONTS OF MAIN ENTRIES. With all main entry cards numbered front and back, all the fronts of cards in each daily work batch can be reproduced in one sequence. This allows hopper feeding of cards (i.e., continuous placement by operator without any interruptions or decisions about versos). Reproduction of all fronts at one time also takes full control advantage of the continuous sequence of numbers on cards. By this sequence numbers can be checked against the machine counter to insure that all cards are completely and uniquely reproduced and that any operator or machine failures are accounted for. See the previous discussion of reproduction methods.

Once control figures are verified, and any obvious exceptions corrected, reproduced fronts of main entries can be set aside in numerical order awaiting later interfiling with copies of versos.

STEP 7: SELECT VERSOS. When the fronts of all main entry cards are reproduced, versos can be selected by looking only at the back of cards and pulling out any card with information on the back (except perhaps tracings codes, such as L: m: n: etc.). This can be done by someone not trained in librarian work.

Versos selected at this point will insure complete entries and cross references in the book catalog; therefore, we recommend a quick verification of the non-versos (after the initial verso selection is made) to insure that all versos have been selected. The verification can be done easily by riffling quickly through all the non-verso cards (i.e., those with blank backs). The editors can ignore later any blanks or unnecessary versos incorrectly included among versos. And, they can cross out versos whose complete information is not needed. There need be no second verification of the versos already selected.

Selection of versos is made after reproduction of fronts to insure optimum production efficiency and control accuracy when reproducing fronts. (Selecting versos before reproduction of fronts would take away the advantage of the continuous sequence of numbers.)

STEP 8: COUNT VERSOS. Versos, once selected and verified, can be counted by machine. (Automatic numbering machines have a non-imprint switch for counting only). At a rate of 15,000 cards per hour, counting an estimated 55,000 (or 22% of 250,000 main entries) would take a total of only four hours (See discussion under III A, No. 2b.)

This count is very useful for control during reproduction. It insures that all versos are completely and uniquely reproduced, even though the main entry numbers on the backs of the selected cards are not in a continuous sequence.

STEP 9: REPRODUCE ALL SELECTED VERSOS. Once versos are counted, they can be reproduced in one continuous pass through the machine. Reproduction is recommended on blank paper stock, to insure that the versos are easily distinguished from rectos with editing template. Any template reproduced with versos would be redundant and might, in fact, lead to error or extra effort in later interfiling, editing, or keying.

With a hopper-fed machine, reproduction without template will require a change from preprinted to blank paper stock. Since paper stock has to be replenished frequently, this change will not appreciably increase paper costs or change time. If reproduction machine is manually fed and the template is positioned on the glass, the template would have to be removed, but the type of paper stock would remain unchanged.

Control is by log record with visual verification that the received machine count for total versos in a batch is equal to the machine count of the run.

STEP 10: INTERFILE VERSO SHEETS WITH RECTO SHEETS. When all versos in a batch are reproduced, they can be interfiled with the already completed copies of rectos set aside in numerical order. The verso copy without template can be interfiled directly behind the recto with the same main entry number. At this point, there is no need to consider where the verso goes when extensions are involved. Editors will later rearrange any versos when required in the proper order for keying according to editing rules.

Interfiling is recommended at this point (rather than later at the place of editing) so that there will be only one continuous and complete sequence of copies. One sequence of copies will insure that editors are not delayed in receiving rectos without versos. It will also insure that extra labor is not spent in packaging, labeling, storing, and handling two sets of copies.

Illegible or badly reproduced copies noticed during interfiling can be immediately reproduced from the still available main entry cards of the particular batch. However at this point inspection of the quality of reproduction for each recto without verso is not important. Such inspection will be an automatic byproduct of later editing and recovery procedure.

When all corrections are made and interfiling is completed, the total number of versos of the day's batch can be checked on the control log as interfiled.

STEP 11: PACKAGE AND LABEL REPRODUCED SHEETS. When reproduction of a batch of cards is completed, the sheets can be packaged in appropriate volume (such as the standard ream of 500), labeled with inclusive main entry numbers, and stored till transported to place of editing. With an estimated volume of 1.31 sheets per title, labeling of packages will insure that all reproduced sheets of such a large volume are accounted for by individual packages.

Minimal packaging is recommended to keep sheets intact and to prevent dogears. Packaging also makes for easy handling of large units and permits flat storage without shelves. Use of ring binders for storage is not as appropriate at this point as it is later when the edited sheets are awaiting verification against computer print-out.

STEP 12: REFILE BATCH OF MAIN ENTRY CARDS. As soon as a work batch of cards is reproduced and versos interfiled, the cards can be returned to the original catalog for refiling. Daily refiling is recommended as an essential part of the process of returning cards to regular operation with the minimum delay. The daily amount of time for refiling, therefore, should be included as a factor in determining how many trays of cards can be processed feasibly in one work period or day.

The cards will be in two sets of work trays: non-versos (with parallell drawer numbers) and versos corresponding to all trays in a batch. Refiling non-versos and versos separately probably will be more accurate.

Refiling is done by working backwards in the number sequence of main entries on the backs of cards, from the highest number to the first number of the batch.

STEP 13: VERIFY THAT ALL CARDS HAVE BEEN REFILED. Once the main entry cards have been refiled, all catalog cards of a work batch can be counted by the numbering machine to prove that all cards have been returned. (End No. - Start No. + 1 = Total cards)

This count is valid as long as no new or interim entries are made to the non-main entries of the batch while main entries are being processed.

The correctness of sequence in refiling depends upon the person doing the refiling unless it is felt that a separate verification of the number sequence is worthwhile. Periodic sight checks during counting of all cards would only sample check that the sequence is correct at those points of sight checking.

PROD FIG.4: ESTIMATED TOTAL COSTS AND TIME FOR PROCEDURES

S T E P		FUNCTION	TYPE OF PERSON	MACHINE	VOLUME CARDS UNLESS STATED	TOTAL MAN HOURS	TOTAL LABOR COSTS	TOTAL MACH. COSTS
NO.	DESCRIPTION							
1.	VERIFY that catalog and cards within contain full main entries. Those without tracings may be weeded out by editors and recycled.	Achieve Complete entries and cross references	Editor	-----	250,000	228 hr.	$912	
			Clerical	-----	3,000	100 hr.	$300	
2.	NUMBER all catalog cards. a. Set up machine b. Numbering	Refile and Recovery	Clerical		250 runs	13 hr.	$ 39	$860
			Clerical	Numbering	500,000	34 hrs.	$102	
2a.	PREPARE extra copies of all new entries. a. Preparation b. 1 yr. interim and post entries	Copies of additions to catalog	Clerical	Card Reproducer	12,000	4 hr.	$600	
3.	SELECT main entries. a. Select b. Verify non-main entries	Entries In book catalog	Clerical	-----	500,000	1000 hr.	$3000	
			Librarian	-----	250,000	500 hr.	$2000	

*The actual work is done after the bulk of the file is converted. This step is listed first to assure library entries will be complete.

(cont. on next page)

PROD FIG. 4 (CONT.)

No.	STEP DESCRIPTION	FUNCTION	PERSON	MACHINE	VOLUME Cards unless stated	TOTAL MAN HOURS	TOTAL LABOR COSTS	TOTAL MACH. COSTS
4.	REFILE non-main entries in original tray(s)	Reference in regular operations	Clerical	-----	250 references	13 hr.	$ 39	
5.	NUMBER fronts of main entries	Record and Link nos.	Clerical	Numbering	250,000	17 hr.	$ 51	
5a.	NUMBER backs of main entries.	Verso line numbers	Clerical	Numbering	250,000	17 hr.	$ 51	
6.	REPRODUCE fronts of main entries.	Copies of rectos	Clerical	Reproduction	250,000	1563 hr.	$4689	$6850
7.	SELECT versos cards. a. Select versos	Versos	Clerical		250,000	250 hr.	$ 750	
	b. Verify non-versos	Versos	Clerical		195,000	98 hr.	$ 294	
8.	COUNT verso cards.	Reproduction total	Clerical	Numbering	55,000	4 hr.	$ 12	
9.	REPRODUCE verso cards.	Copies of versos	Clerical	Reproduction	55,000	344 hr.	$1032	$1507
10.	INTERFILE verso copies.	Continuous Sequence of copies	Clerical		55,000	79 hr.	$ 237	

(cont. on next page)

PROD FIG. 4 (CONT.)

No.	STEP DESCRIPTION	FUNCTION	PERSON	MACHINE	VOLUME Cards unless stated	TOTAL MAN HOURS	TOTAL LABOR COSTS	TOTAL MACH. COSTS
11.	PACKAGE and label copies.	Copies for Storage and Transport	Clerical		305,000	26 hr.	$ 78	
12.	REFILE main entry cards.	Restored Catalog	Clerical		250,000	358 hr.	$1074	
13.	COUNT refiled cards.	verified refiling	clerical	Numbering	250,000	17 hrs.	$ 51	
14.	Interim conversion costs. Unit cost = 10¢ per card*				15,000		$1500	
	TOTAL						$16,811	$9,217
					Combined Total Labor and Machine Costs		$26,028	

*This unit cost was estimated for 250,000 main entries in the CSL.

CONVERSION PROGRAM

Program specifications for the conversion and correction of CSL-PC input data with additional specifications relating to the manual correction of printouts problem.

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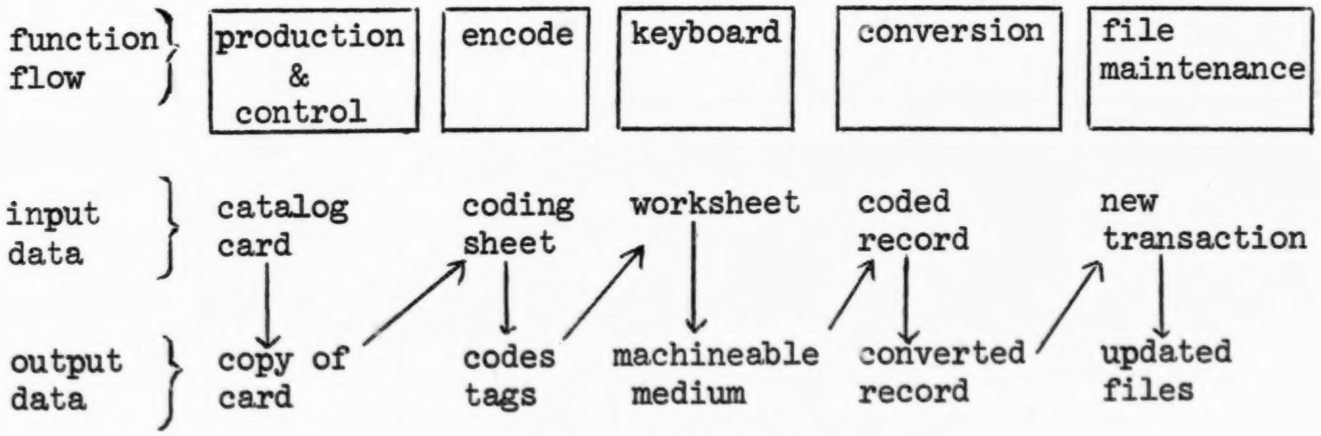
I. INTRODUCTION

From the system point of view, the conversion function consists of translating the codes and tags supplied by bibliographic editors plus the text of the catalog card itself, into a MARC II format machine record. Conversion deals with record units only and holds coded and converted records until they can be reviewed and verified or deferred. In brief, then, the system boundaries for the conversion function are keyboarding on the input side, and file maintenance with respect to output.


function flow
production & control
encode
keyboard
conversion
file maintenance
input data
catalog card
coding sheet
worksheet
coded record
new transaction
output data
copy of card
codes tags
machineable medium
converted record
updated files

From the point of view of the flow of data, however, the conversion program accommodates data from many different input sources: retrospective conversion, current acquisitions/cataloging, and search requests in support of technical processing. The first two inputs may be in the form of either full or partial record data; the third input type will be in partial form only.

Data Source	Type of Record	Function
Retrospective	Full - new	Probably addition to Master File
Retrospective	Partial - search	Search for duplicate already in Master File
Current Cataloging	Full - new	Probably addition to Master File
Current Cataloging	Partial - search	Search for duplicate already in Master File (especially MARC section)
Technical Processing	Partial - search	Search Master File for duplicate (especially MARC partition).

Partial records may consist of only author, short title and publication date (minimum), or also call number (optional), and subject tracings (optional). Author-title-date is all that is necessary for any search operation. Call number and subject tracings may be present to indicate variations from the record already in the master file. (The appropriate conditions for these various forms of record inputs and functions are more fully discussed under file maintenance.)

The internal flow within the conversion function is itself composed of a number of separate sub-functions, all operating together to allow for code translation, editorial review, error correction, and continued re-cycling until the record can be verified. It should again be noted that here as throughout the entire input cycle, the main entry serial number (originated during the production process) is the predominant means for control and for identifying the same entry through many different procedures.

The main entry serial number (MESN) is originally assigned to the source catalog card during the production and copy process. The MESN appears on the coding sheet. It is then used in editor's logs to record their work flow. During keyboarding, in addition to serving as an input-output control, the MESN is punched along with the card text and codes. Thus it is also present in the computer record where it functions as a CRIDNO (Conversion Record ID Number). Finally, when the converted record is printed out for editorial review and verification, the correlation of the completed coding sheet with the computer print-out is accomplished by linking a MESN with a matching CRIDNO.

SYSTEM SUMMARY. The first step in the record conversion process is to sort the keyboarded records into MESN/CRIDNO order. The codes, tags, and text for each catalog record are then input and processed directly, record by record, by the main conversion program. The input records may be classified into two main groups: (1) first-time input, and (2) transactions to records already in the conversion program work tape (CWF).

As already mentioned, the first-time category may contain full or partial records. The transaction category may also be subdivided into corrections, verifications, and deferments. Unless otherwise specified, input records will be assumed to be in the first-time full record category. (Partial records, corrections, verifications, and deferments will be signalled by an alphabetic suffix appended to the MESN/CRIDNO during keying; these suffixes will be P, C, V, and D respectively.) The conversion program treats all first-time inputs in the same way. Separate paths are followed for the various types of transaction inputs.

First-time inputs. The basic operations performed on first-time inputs are:

1. code translations
2. code-assisted field recognition
3. automatic field recognition
4. legality editing

CON Fig. 1 is a schematic of the first-time input flow.

These four steps constitute the basic processing techniques used by the conversion program, and each is performed on that definite class of data elements to which the technique is relevant. Each technique contributes to the construction of a record which is at the MARC II level of data element identification and description.

Code translations are oriented to the check boxes on the input coding sheet, and serve to build the fixed field descriptors and variable field indicators in the MARC format. Code-assisted field recognition depends upon scanning the bibliographic data itself for imbedded field and sub-field codes, and then constructing data fields according to MARC II specifications. Automatic field recognition techniques, where feasible, accomplish the same goals except they do not depend upon editor supplied codes to support MARC II data element identifications. Legality editing is the analysis of the record for inconsistent or illogical cataloging or coding situations; for example: analytic author added entries not in author-title form.

The philosophy of the conversion subsystem is to create a MARC record as quickly and as simply as possible, and then to process that MARC record for other conversion functions such as listing or correction. Thus the output of the conversion program for first-time inputs, is a MARC record which will then be printed out and corrected. The proofreading format consequently is oriented to MARC fields and subfields rather than to input codes or a catalog card format. The format is as follows:

Tag
1st Subfield ____________________
2nd Subfield (5 sp) _______________
3rd Subfield (10 sp) __________
4th Subfield (15 sp) _____

IMPR 260
Place $a New York,
Publ. $b Grosset and Dunlap,
Date $c (1957,
Date $c ^{c}1931)

The MARC tags and delimiters are displayed for bibliographic verification and the card text for typographic proofing. Of the two, bibliographic accuracy is more crucial to adequate system performance. CON fig 2 gives an example of a complete record printed out in proofreading format.

TRANSACTION INPUTS. For the conversion system, transaction inputs all refer to records already on the Work File Tape. Transaction records, as the name implies, contain actions to be performed upon records which have already come through the "first-time" conversion cycle. The three types of transactions are:

1. corrections
2. verifications
3. deferments

A schematic of the flow of transaction inputs through the conversion system is given in CON Fig. 3.

Corrections occur as a result of editorial review. Corrections are identified by locations (field tag word string) and by function (copy, delete). Corrected records are re-printed (only the altered portion) for further editorial review. It should be noted that L.C. MARC I experience indicated that 41% of all initial corrections required a second correction cycle. Corrections and proofreading may be done by input editors, or by other suitably trained personnel.

When a record - either partial or full - has been proofread and corrected to an acceptable standard of bibliographic and typographic accuracy, it is released from the conversion system. The release is triggered by a specific transaction record which certifies the completeness of the editing and conversion/correction cycle.

The defer transaction is designed simply to hold records on the Work File for an indefinite period, for whatever reason. Entries in a defer status will be ignored in any time-on-work-file statistics or inventories.

CONVERSION SUBSYSTEM.

The conversion subsystem consists of four distinct processing modules, each of which accomplish a separate function with respect to the overall task. These four are:

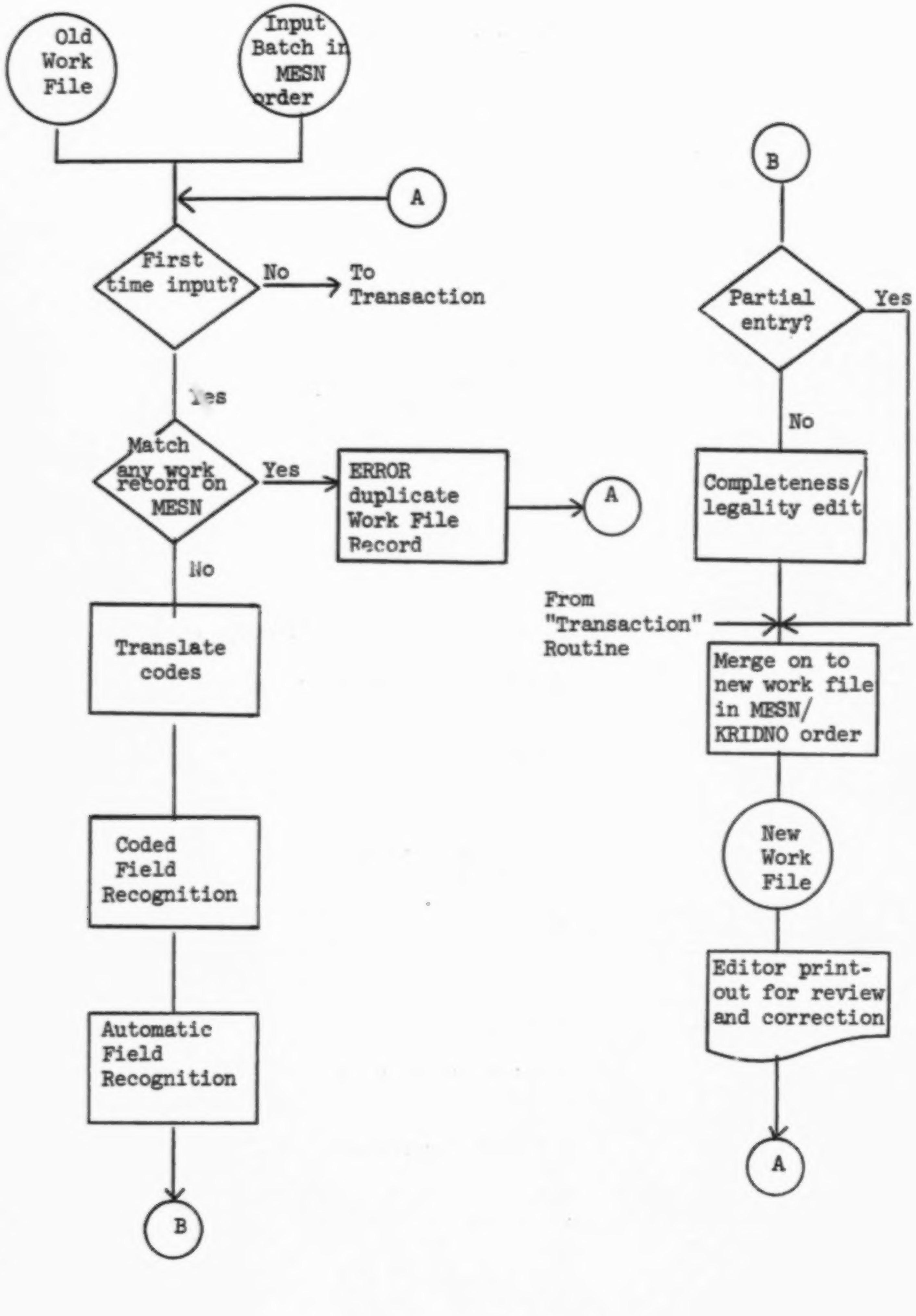
1.	Translate (TRANS)	: translate edit codes/tags to machine record
2.	Correct (FIX)	: correct editorial/machine errors
3.	Format (LIST)	: output both conversions and corrections for manual review
4.	Confirm (PASS)	: construct final MARC II form for correctly converted records

CON Fig. 4 depicts the interaction of these four conversion modules, by showing three distinct cycles of an entry through the subsystem: original input, correction, confirmation. Cycle one (original input) requires the TRANS and LIST modules. Cycle two (correction) takes place after editorial proofreading and review and requires the FIX and LIST modules. Cycle three (confirmation) is the final system function and requires only the PASS module.

Records which undergo a successful conversion are released to a batch file which accumulates for processing by the file maintenance subsystem. Since any conversion run may be required to process concurrently cycles one, two or three, an executive control routine (EXEC) will be used to determine which modules to call in order to accomplish a given cycle.

This chapter will present detailed specifications for TRANS, FIX, and LIST, plus a description of automatic field recognition (AFR) techniques. The remainder of this introductory section will describe supplementary CSL-PC data elements which have been added to the MARC format.

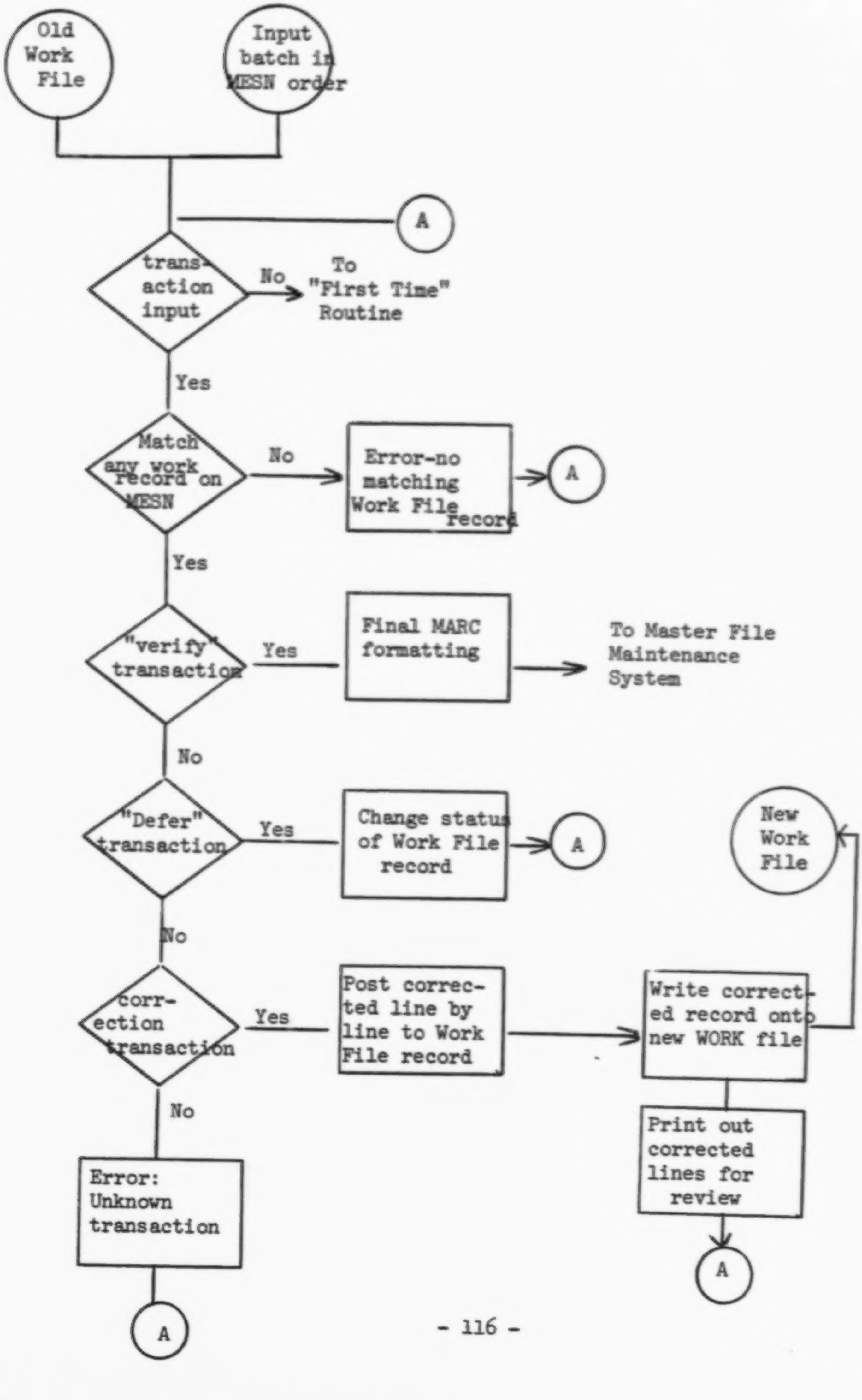
CON Fig. 1: FLOW CHART OF "FIRST TIME" CONVERSION INPUTS


Old Work File
Input Batch in MESN order
A
First time input?
No
To Transaction
Yes
Match any work record on MESN
Yes
ERROR duplicate Work File Record
A
No
Translate codes
Coded Field Recognition
Automatic Field Recognition
B
B
Partial entry?
Yes
No
Completeness/ legality edit
From "Transaction" Routine
Merge on to new work file in MESN/ KRIDNO order
New Work File
Editor print-out for review and correction
A

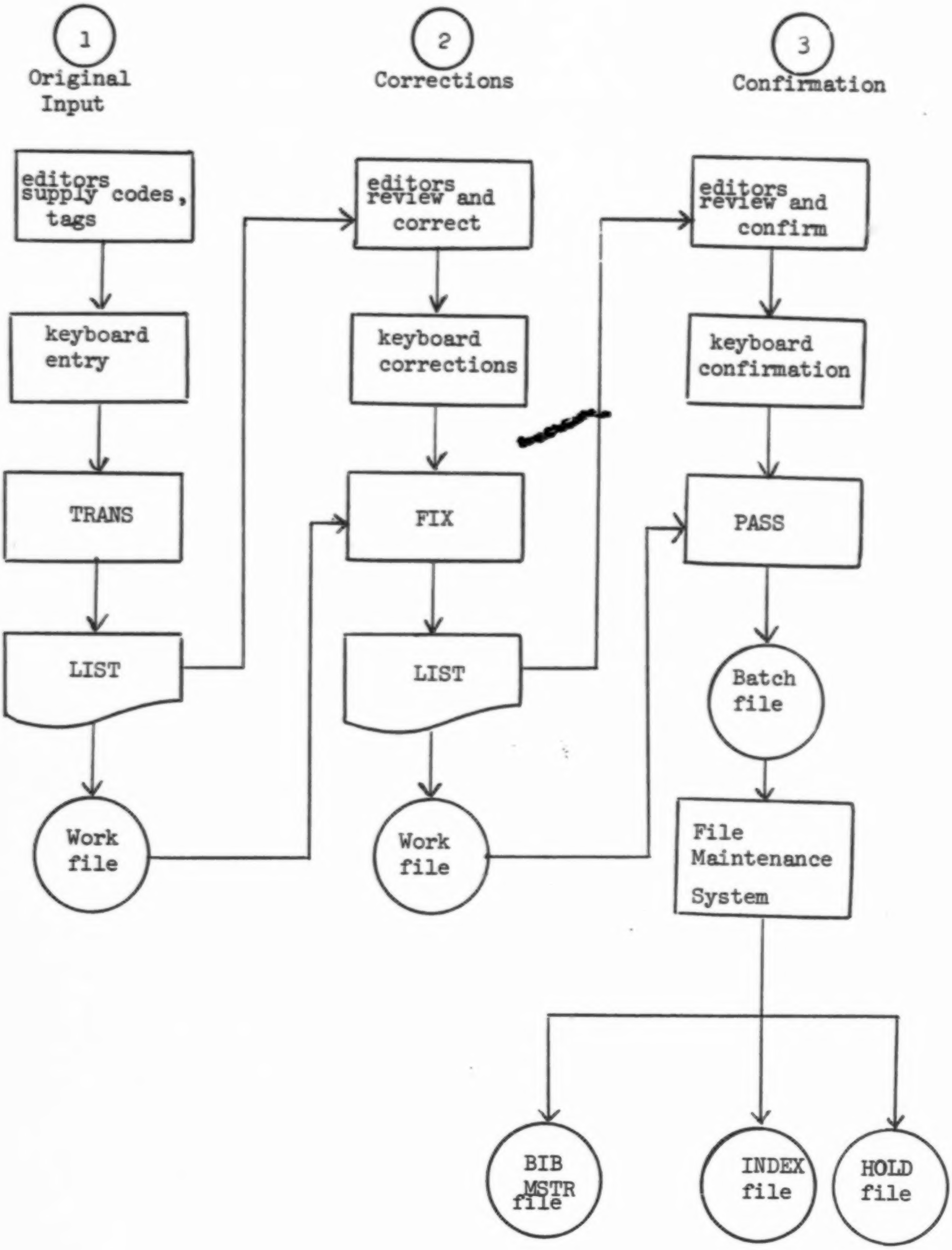
CON FIG. 2: SAMPLE PROOFREADING FORMAT

TAG delimiter	Catalog Card Data
RECORD NO	518178
PC CALL	F591 W35 1957
ME PERS	
name	Webb, Walter Prescott,
date	1888-
TITLE	
short	The Great Plains.
IMPR	
place	New York,
pub	Grosset & Dunlap,
date	(1957,
date	c1931)
COLL	
page	525 p.,
illus	illus.,
size	21 cm.
SN UNTR	
note	(Grosset's Universal Library, UL-29)
BN BIB	Includes bibliographies.
SUB GEO	
head	Great Plains
gen	Hist.
SUB GEO	
head	Mississippi Valley
gen	Hist.
LC CALL	F591
DDC	978
LC CARD	57-4356
CAT	Printed for A. B. P.
DESCR	
Dtype	c - (pub + copyright)
Date 1	1957
Date 2	1931
Illus	a- (illus)

CON Fig.3: FLOW OF "TRANSACTION" CONVERSION INPUTS


Old Work File
Input batch in MESN order
A
transaction input
No
To "First Time" Routine
Yes
Match any work record on MESN
No
Error-no matching Work File record
A
Yes
"verify" transaction
Yes
Final MARC formatting
To Master File Maintenance System
No
"Defer" transaction
Yes
Change status of Work File record
A
New Work File
No
correction transaction
Yes
Post corrected line by line to Work File record
Write corrected record onto new WORK file
Print out corrected lines for review
A
No
Error: Unknown transaction
A

CON Fig.4: PROCESSING CYCLES FOR CONVERTING CATALOG RECORD


1
Original Input
2
Corrections
3
Confirmation
editors supply codes, tags
keyboard entry
TRANS
LIST
Work file
editors review and correct
keyboard corrections
FIX
LIST
Work file
editors review and confirm
keyboard confirmation
PASS
Batch file
File Maintenance System
BIB MSTR file
INDEX file
HOLD file

CSL-PSC DATA ELEMENTS

In order to accommodate Processing Center bibliographic fields for which MARC tags are not now available, supplemental tags and delimiters are provided as described below.

* * * *

008 GOVERNMENT PUBLICATION CODES

The simple on/off indicator now provided by MARC as the tenth fixed field does not provide sufficiently detailed coding for the several kinds of government documents which CSL-PC will expect to have delimited. By changing the kind of data entered in this field from zero or one to five alphabetic and the usual blank default character, CSL-PC can accommodate local needs without changing the length or sequence of the MARC fixed length data element control fields.

083 LOCAL CLASSIFICATION NUMBER

Local library practice may call for the use of several different classification schemes within a library system. The historical development or the diverse nature of the collections in a given library usually account for the presence of more than one classification scheme.

Tag 083 has been selected for the "Local Classification Number" field. This usage places "local classification numbers" within the tag range that MARC has designated for "knowledge numbers".

A single delimiter ($a) will serve to mark the total string of symbols representing "local classification numbers" appearing under the 083 tag. The "total string" is taken to include words and symbols indicating location as well as classification information.

The first indicator will show which one of several possible classification systems is being referenced. A zero (0) in the first indicator position will signify that the symbols found following the $a delimiter belong to a "special subject classification system" within the California State Library. A one (1) indicates that "CSL document numbers" are being referenced by the data, while a two (2) in this position indicates a "Superintendent of Documents catalog number".

Further expansion of this indicator would allow up to ten local classification schemes to be accommodated.

The second indicator in this field is blank.

090 | HOLDINGS

This field is constructed using the local call number, local location codes, and any copy data associated with a given bibliographic entity. So constructed, this field provides location pointers for monographs down through the branch level of libraries within the CSL-PC system.

MARC tag 090 provides for 'local call number' fields. This field, as defined below for CSL-PC use, combines local call number data with various location codes to form a single 'pointer' which both identifies and locates a given bibliographic entity within the CSL-PC system. Four delimiters are used with subfield data elements under tag 090.

A seven-digit location code - made up of a three-digit code for major library, a two-digit code for branch library, and a two-digit code for number of copies at a given location - will be delimited by $a. Since fixed length numeric codes constitute the data fields under $a, this subfield can be viewed as a paeudo fixed field area allowing for future expansion should additional location codes be required.

Local library call number - in the exact form it appears on the catalog card - receives the delimiter $c. Because call number usage is both vital and highly library specific, care must be taken lest the original form of this number be lost or changed.

Copy information appearing on the card in the form of textual comments will be given $e as a subfield delimiter.

Any special shelf location information will be delimited by $f. This usage permits differentiation of location within a branch collection forming part of the CSL-PC system. Example:

$a0049001$c917.94 D79c$eRev.ed.1934$flocked case

Both indicators in this field will be set to blank.

$q | SUBFIELD (1XX, 4XX, 6XX, 7XX) | PSEUDONYM

All "other names" appearing on a catalog card after the personal author main entry form of a name will be included in the pseudonym field. Both the pseudonyms and words indicating that they are pseudonyms will be delimited as shown below.

Subfield delimiter $q under MARC tags 100, 600 and 700 will be used for data coming under the meaning of this field as defined above.

An example of how both the pseudonyms and words indicating that they are pseudonyms will be represented in the MARC record:

10$aEliot, George,$qpseud., i.e. Marian Evans, afterwards Cross

130, 630, 730 | UNIFORM TITLE HEADING ALSO A SERIAL TITLE

When a uniform title main entry is also a periodical or other serial title an indicator will be set in the MARC record as described below.

The first indicator under MARC tags 130, 630 and 730 is affected by the definition given above. Setting this indicator for each of the three named tags will be done as follows:

Main entry is not a serial title = 0
Main entry is a serial title = 1

245 | TITLE TRACED SAME AS SHORT TITLE

The practice of the individual library with regard to the tracing of title when the title is the same as the short title, is considered important for CSL-PC records.

The second indicator under MARC tag 245 will be used to show whether the catalog card feflects a title traced same as the short title. The practice of the individual library is taken as controlling, and this indicator records only what appears on the catalog card after local adaptation. Permitted settings of this indicator:

The legend "Title." is crossed out = 0
The legend "Title." is not crossed out = 1

506 'LIMITED USE' NOTE

Various legends appear on catalog cards indicating that the work for which the card was made has been placed on limited or non-circulating status. This is usually done due to the fragility, rarity, or high incidence of use associated with such items. Local library practice will determine the circulation status of such books.

Tag 506 has been assigned to this field for CSL-PC use. This tag places the 'limited use' note together with other, similar notes within the MARC record.

A *single delimiter* $a prefaces the data constituting the kind of note described above.

Both indicators in the field will be set to blank.

507 "IN ANALYTIC" NOTE

This field applies to analytic entries for parts of a work or series of works. Such parts are *not* bibliographically separate entries.

Tag 507 has been assigned to this CSL-PC field. This usage puts "in analytic" notes within the same tag range used by MARC for various kinds of bibliographic notes.

A *single delimiter* ($a) will mark the beginning of data under tag 507. Both indicators in this field are blank. *An example* of how this field will appear within the MARC record:

b̸b̸$a(In McIlwraith, A. K., comp. Five Stuart tragedies.
London, New York [1953] p.[99]- 200)

508 "FULL NAME" NOTE

Supplementary information about the name of a personal author main entry may appear on LC cards printed before 1964.

A *single delimiter* ($a) will precede the variable length data defined to be a "full name" note. Both indicators in this field are blank. *An example* of how this field will be represented in MARC:

b̸b̸$aName originally: Willi Applebaum

II. TRANS PROGRAM

The function of the TRANS program is to create a MARC machine record of identified bibliographic data. The input to TRANS is the data contained on the standard Processing Center input coding sheet, see CON Figures 5 and 6. The output of TRANS is a MARC form record, which is passed on to the LIST program for edit checking and display.

This section will discuss TRANS in terms of input, processing logic, and special subroutines. An extensive discussion of all the MARC data fields is found in Appendix I to this chapter. This discussion can be used as a complete reference to all the MARC elements as they relate to input codes. The discussion has been put in an appendix due to its size.

* * * *

INPUT. The instructions to the bibliographic editors for using the Processing Center input coding sheet are found in volume 3 of this report. The structure of the input coding sheet is divided into three main sections:

A-fields:	Body or upper part of catalog card
B-fields:	Notes, tracings and other data in lower part of card
I-fields:	Added descriptions, classifications, etc.

The A-field codes and B-field codes are imbedded in the card data itself. I-field codes all derive from the "template" of codes which surrounds the card on the remainder of the input coding sheet. A review of these three structural sections of the coding sheet follows.

A-Fields. There are ten discrete items of catalog data appearing in the first part of the body of the card which are almost always present and which receive a uniform code, the slash mark (/). These items are called A-Fields, and each field receives a slash mark. If an A-field is absent, a slash mark is still inserted. There should always be ten slashes in the A-fields after they are completely edited. A list of the A-fields follows.

The ten A-Fields are:

1. Local call number
2. Main entry heading
3. Short title
4. Title Elaboration, and remainder of title page transcription
5. Place(s) of publication
6. Publisher(s)

7. Date(s) of publication
8. Pagination
9. Illustration statement
10. Size

B-Fields. There are 41 distinct fields of information which may appear on a catalog card following the A-Field information. Notes, tracings, LC card number, etc. are found in this group. Each field receives a separate code and special editing.

Unlike the A-Fields, the B-Fields receive codes only when they are present on the card; their absence is not signalled. There are two series of B-Field codes because of the large number of fields that can potentially be included by the library system: The first series of B-Field codes is composed of an asterisk (*) followed by a lower case alphabetical character. The second series of B-Field codes is composed of an exclamation mark (!) followed by a lower case alphabetic character. A space is not required between the field code and the field.

There is no requirement that the B-Field codes appear on the card in alphabetical order. The field code must be written before the first occurrence of that field. Within some of the fields there are sub-fields or other data which receive special editing and delimiting. A number of these field codes are repeatable; that is, some B-Fields appear more than once on a given catalog card and are to be coded anew each time they appear. (Others appear more than once but are to be coded only the first time they appear.)

I-Fields. The I-Field codes serve to describe and classify the data on the catalog card, in contrast to the A-Field and B-Field codes which only identify data. The I-Field codes record descriptive information, taken directly from the card or deduced from other data present. The codes are found on the pre-printed portion of the coding sheet, beneath and to the left of the catalog card copy.

The appropriate code is indicated either by a check mark or by filling in a code or data in the corresponding code box. In some of the fields more than one option may be checked (e.g., Content Form, Type of Work, Main Entry); in others the options are mutually exclusive or there is an order of precedence (e.g., Date Type, Catalog Source, Form of Reproduction, Government Pub.). Certain of the I-Fields must always have an entry (e.g., the holdings boxes which give the system and branch holding the book) and certain others must have an entry except when a default condition is met (e.g., an entry must always be made for type of date except when it is a single date with no missing digits).

The input is in the form of a continuous stream, in the following order: I-Fields, A-Fields, B-Fields. CON Fig. 5 is an example of a fully coded catalog entry. CON Fig. 6 is an image of that same coded entry converted into a continuous data stream.

CSL PROCESSING CENTER
INPUT CODING SHEET:
MONOGRAPHS

CON
123456

/PN4121 /Weaver, Carl Harold, 1910- 9od
.W347 /Speaking in public/%by, Carl H. Weaver. /New York,
/American Book Co/,1966,
/vii, 488 p. /illus. /23 cm.
f Includes bibliographies.

CON Fig. 5

m/1. Public speaking. ~~I. Title.~~

5 ~~PN4121.W347~~ w808.51 x66-711
~~CU 66~~

~~Library of Congress~~ ~~CUS~~

● Date 1 Date 2

Date 1	Date 2
1966	

● DATE TYPE:

bc	2 dates: 2d is ©
bm	multiple date span
bn	date not known
bq	digits missing
br	prev. published

ca	LC call no. is bracketed

CATALOG SOURCE:

ea	NAL
eb	NLM
ec	Coop. Cat.
ed	NUC
ee	other
ef	orig. cat.

FORM OF REPRODUCTION:

ga	microfilm
gb	microfiche
gc	micro-opaque
gd	large-print

CONTENT FORM:

ha	abstracts
hb	bibliographies
hc	catalogs
hd	dictionaries
he	encyclopedias
hh	hndbks./manuals
hi	indexes
hp	progrmmd. texts
hr	directories
hs	statistics
hy	yearbooks

TYPE OF WORK:

ia	juvenile
ib	fiction
ic	autobiography
id	biog.-indiv.
ie	biog.-coll.

◉ TYPE OF ADDED ENTRY:

Series traced same as note	ja									
Series traced differently from note	jr									
Subject headings and subdivisions	jm	ta								
Non-subject/non-series tracings	jq									

GOVERNMENT PUBLICATION:

ka	U.S. Federal
kb	Cal State
kc	Cal Co./Muni.
kd	international
ke	other govts.

ma	conference pub.
na	non-keyable data
qa	cancel title added entry same as title
ra	card lacks title traced same as short title

sa		%	lang.

ta	translation

MAIN ENTRY HEADING:

● ua		type of main entry
ub		m.e. is subject
uc		m.e. is publisher
ud	✓	m.e. repeated in body

HOLDINGS:

	System ◉	+Br ◉	Total Copies Here
◉ wa	004	90	
wb			
wc			
wd			

◉ = must always be filled in
● = must frequently be filled in

◉ EDITOR rms

Mo.	Day	Yr.	Minutes
01	27	69	02

KEYPUNCHER

Mo.	Day	Yr.	Minutes

KEYPUNCHED VERSION OF INPUT CODING SHEET SAMPLE[°](CON Fig. 5)

```
I-Fields  123456  01     1966 jmtaudwa00490

         [123456  02     /PN4121.W347/Weaver, Carl Harold, %d1910-
         |123456  03     /Speaking in Public/%[by] Carl H. Weaver.
A-Fields-|123456  04     /New York,/American Book Co./(1966)
         [123456  05     /vii, 488 p. /illus. /23

         [123456  06     *fIncludes bibliographies.
B-Fields-|123456  07     *mPublic speaking
         [123456  08     *s*w808.51*x66-711+
            ↑      ↑
         ID No.    |
                   |
              Line No.
```

CON Fig. 6

[°] For the sake of readability, the example is broken into 8 distinct lines, separating the I, A and B field structures. In practice no such separation need occur, and the TRANS logic will expect a continuous input stream and will rely on internal codes rather than line breaks to provide the structural distinctions.

PROCESSING LOGIC. The processing logic of TRANS is straight line, and hence logically simple. However, it is also composed of an extremely large number of discrete data transformation functions, and in this sense is complex because of the amount of detail involved. In our presentation we try to simplify matters by constructing charts and tables of increasing levels of specificity, so that an orderly progression from generality to detail can be established.

The most general point to be established concerns processing sequence. There are three distinct input sections: I-Fields, A-Fields, B-Fields. A-and B-Fields delimit the data as it appears on the catalog card; I-Fields supplement the A-and B-Fields by classifying the data according to form or type and by supplying other additional information. Thus, there is a high degree of interaction between the I-Fields and the A-B Fields. It is our view that A and B-Fields should be processed first; afterwards the I-Fields should be considered.* The beginning of the A-Fields is easily determined by searching for the first slash in the input record, as shown in CON Fig. 6.

Given this order of processing, it is appropriate to list in general the input codes with their corresponding MARC data elements. The following chart is not fully detailed, and does not map specific input data values into specific MARC data values. What is indicated is a general correspondence between input codes and MARC tags; only in the I-Fields do we include the details of MARC subfields and indicators.

---

*Do not confuse this processing order with the keypunching order; the keying order is I-Fields first, followed by A-Fields and then B-Fields.

CON Fig. 7: A-FIELDS—PROCESSING LOGIC

Input Code	MARC Tag	Field Name
1st /	090 @	Local Call Number
2nd /	1XX	Main Entry
3rd /	245	Short Title
4th /	245	Title Elaboration
5th /	260	Place of Publication
6th /	260	Publisher
7th /	260	Date of Publication
8th /	300	Pagination
9th /	300	Illustration
10th /	300	Size

@ = CSL-PC defined data elements

CON Fig. 8: B-FIELDS—PROCESSING LOGIC

Input Code	MARC Tag	Field Name
*a	4XX	Series Note: Author-Title
*b	440	Series Note: Title
*c	490	Series Note: Not Traced
*d	490	Series Note: Traced Differently
*e	015	Nat'l. Bibliography Num.
*f	503	Bibliography Note
*g	507 @	'In' Analytic Note
*h	502	Dissertation Note
*i	505	Contents Note
*j	501	'Bound With' Note
*k	500	General Note
*m	6XX	LC Subject Tracings
*n	241	Title Romanized Note
*p	503	Bibliographic History Note
*q	7XX	Non-subject/non-series Tracings
*r	8XX	Series Tracings Different from Note
*s	050	LC Call Number
*t	051	LC Copy Statement
*u	090 @	Local Holdings
*v	6XX	Sears Subject Tracings
*w	082	Dewey Class Number
*x	010	LC Card Number
*y	025	Overseas Acquisition Number

@ = CSL-PC defined data elements

(cont. on next page)

CON Fig. 8: B-FIELDS—PROCESSING LOGIC (CONT.)

Input Code	MARC Tag	Field Name
!a	020	Standard Book Number
!b	506	'Limited Use' Note
!c	520	Abstract
!e	6XX	NLM Subject Headings (MESH)
!f	6XX	NAL " "
!g	6XX	Local Indexing Scheme
!h	060	NLM Call Number
!i	070	NAL Call Number
!j	071	NAL Subject Category Number
!k	040	Cataloging Source (Co-op)
!l	083 @	Special Classification Systems
!m	083 @	Supt. of Documents Cataloging No.
!n	040	Co-operative Cataloging Library
!p	508 @	Variant Name Note
!q	241	Title Romanized Note
!r	242	Translated Title
!s	6XX	Annotated Card Pgm. Subj. Headings
!v	083 @	CSL Documents Number

@ = CSL-PC defined data elements

CON Fig. 9: I-FIELDS—PROCESSING LOGIC

Input Code	MARC Tag	MARC Subfield	Field Name
4 digits	008	pos 7-10	Date 1
4 digits	008	pos 11-14	Date 2
b	008	pos 6	Type of Date(s)
c	050	Ind 1	Bracketed LC Call Number
e	008	pos 39	Cataloging Source
g	008	pos 23	Form of Reproduction
h	008	pos 24-27	Form of Content
i	008	pos 22, 33-34	Type of Work
ja	4XX	Ind 1,2	Series Traced Same as Added Entry
jm	6XX	Ind 1,2	Subject Added Entry
jq	7XX	Ind 1,2	Non-Subject/Non-Series Added Entry
jr	8XX	Ind 1	Series Traced Differently Added Entry
k	008 @	pos 28	Government Publication
m	008	pos 29	Conference Indicator
n	008	pos 38	Modified Record (unkeyable data)
q	245	Ind 1	Cancel Title Added Entry
r	245	Ind 2 @	Card Lacks Title Added Entry
s	008	pos 35-37	First Language
s	041		Languages
t	041	Ind 1	Translation
ua	1XX		Type of Main Entry
ua	1XX	Ind 1	Form of Heading
ub	1XX	Ind 2	Main Entry is Subject
uc	260	Ind 1	Main Entry is Publisher
ud	008	pos 32	Main Entry Repeated in Body
w	090 @	$a	Local Holdings

@ = CSL-PC defined data elements

DETAILED SPECIFICATIONS

The vast majority of the input codes are optional, in the sense that they may be either present or absent in any given record. The following are the codes which must be present:

A-Fields: all ten slashes (M.E., Title, Imprint, Collation)
B-Fields: none
I-Fields: w-codes (Holdings)

Note that in the A-Fields, all ten codes (slashes) must be present, although there is no corresponding requirement that data be present as well. Thus the following would be possible in the case of a work without author heading:

```
/Call Number/↑/Short Title/Sub-Title/Place/Publisher/Date/Pages/Illus./Size
1           2|3          4         5     6         7    8     9      10
             |
     (data not present)
```

This convention is used only in the slash codes of the A-Fields: it does not apply to any other set of codes.

The I-fields employ their own convention designed to conserve editorial and keyboard labor - the default convention. When certain codes have a very high probability of being set in a certain way, it is not required that they be expressly input unless they are to be set differently than the normal or default condition. An example is the following. Many catalog cards being converted will be LC cataloging. Thus the default condition is LC cataloging, signified by a blank in position 39 of MARC field 008. The default condition holds unless it is specifically countermanded by the presence of an e-code in the I-field, signalling a different cataloging source, e.g., eb = NLM = code "b" in position 39. Another way of stating this is that the absence of an e-code causes the default condition to be set. Default conditions apply to the following I-Fields:

Input Code	Default Condition	MARC			
		Tag	Ind	S.F.	Code
b	Single known pub. date	008		6	S
e	LC Cataloging	008		39	ƀ
g	Not reproduction	008		23	ƀ
h	Content form not specified	008		24-27	ƀƀƀƀ
ia, ib, ic	Not autobiography or biography	008		34	ƀ
id	Not juvenile work	008		22	ƀ

(cont. on next page)

I-FIELD DEFAULT CONDITIONS (CONT.)

Input Code	Default Condition	MARC			
		Tag	Ind	Pos.	Code
ie	Not fiction	008		33	0
k	Not government publication	008		28	b̸
m	Not conference	008		29	0
n	Only standard symbols in rec.	008		38	0
q	Create title added entry	245	1		1
r	Card has title tracing	245	2		0
s	Language is English	008		35-37	eng
ua*	Personal author, single surname	1XX			100
			1		1
ub*	Main entry heading is not subject	1XX	2		0
uc	Main entry heading not publisher	260	1		0
ud	Main entry heading not repeated in body	008		32	0

It should be remembered that the table above represents what action needs to be taken when the input code is not present in the input data stream. Note also that blank is the initial setting of most MARC codes, but sometimes zero is used as well; blank is the initial setting of all indicators.

* * * *

At this point we find it necessary to apologize for presenting still another more detailed table of transform functions from input codes to MARC codes - there is no other way in which to achieve a total specification of the detailed logic of TRANS. The set of tables which follow are divided up into I-Field, A-Field and B-Field sections. Up to this point we have described only the general code set to tag mappings. The detailed tables which follow specify the exact code value-to-MARC data value relationship. For example, b-codes (I-Fields) relate to position 6 of field 008 - the code 'bc' maps to code 'c' in position 6, code 'br' maps to code 'r' in position 6, etc. In the tables 'b' is termed a control code, and 'c' is termed value code, 'c', to be set into position 6, is termed data.

The order of codes in the input stream for A-Fields and I-Fields is fixed according to the order in which they are presented in the table. However the order of B-Fields is not fixed, nor is the order of subfield control codes within a major A or B-Field control code.

---

*The default condition applies only if there is a 1XX field - the absence of the input code could also mean the entry is not a 1XX field.

CON Fig. 10: A-FIELD SPECIFICATIONS

D = Digit
% = Delimiter
ƀ = Blank
Ø = Zero

AC = Alpha Character (unspecified)
DEF.= Default (absence of both control code and value code)
A/N = Variable length alpha-numeric code

INPUT		MARC				
CONTROL CODES	VALUE CODES	TAG	IND	DELIM	DATA	COMMENT
1st /						See HOLDINGS subroutine
2nd /	A/N	1XX		$a	A/N	Main Entry Heading: 1)Personal 2)Corporate 3)Conference 4)Uniform Title
%b	A/N	1XX		$b	A/N	1)Numeration 2)Sub-unit 3)Number
%c	A/N	1XX		$c	A/N	1)Identifier 3)Place
%d	A/N	1XX		$d	A/N	1,3) Date
%e	A/N	1XX		$e	A/N	1,2)Relator 3)Sub-unit
%g	A/N	1XX		$g	A/N	3)Miscellaneous
%x	A/N	1XX		$q	A/N	1)Pseudonym
#	A/N	1XX		$k	A/N	1,2,3) Form Subheading
$	A/N	1XX		$t	A/N	1,2,3,4) Title of Book
%h	A/N	240		$a	A/N	Interposed Filing Title
3rd /	A/N	245		$a	A/N	Short Title
4th /	A/N	245		$b	A/N	Remainder of Title
%	A/N	245		$c	A/N	Remainder of Title Page Transcription
#	A/N	250		$a	A/N	Edition
%	A/N	250		$b	A/N	Any remaining title page information after edition.
5th /	A/N	260		$a	A/N	Place of Publ. } IMPRINT
6th /	A/N	260		$b	A/N	Publisher
7th /	A/N	260		$c	A/N	Date
%a	A/N	260		$a	A/N	Multiple imprint data: May appear after 5th /, 6th / 7th
%b	A/N	260		$b	A/N	
%c	A/N	260		$c	A/N	
8th /	A/N	300		$a	A/N	Pagination } COLLATION
9th /	A/N	300		$b	A/N	Illus. matter
		008		18-21		See ILLUS Subroutine
10th /	A/N	300		$c	A/N	Size

A-FIELD SPECS (CONT.)

←INPUT→		←MARC→				
CONTROL CODES	VALUE CODES	TAG	IND	DELIM	DATA	COMMENT
%a	A/N	300		$a	A/N	Multiple collation data - may appear after 10th slash.
%b	A/N	300		$b	A/N	
%c	A/N	300		$c	A/N	
$	A/N	350		$a	A/N	Bibliographic Price

CON Fig. 11: B-FIELDS SPECIFICATIONS

← INPUT →		← MARC →				
CONTROL CODES	VALUE CODES	TAG	IND	DELIM	DATA	COMMENTS
*a	A/N	4XX		$a	A/N	Series Note, Traced The 4xx delimiters shown can apply to the following tracing types: 400 - Personal author-title 410 - Corporate author-title 411 - Conference title
%b	A/N	4XX		$b	A/N	
%c	A/N	4XX		$c	A/N	
%d	A/N	4XX		$d	A/N	
%e	A/N	4XX		$e	A/N	
%g	A/N	4XX		$g	A/N	
%x	A/N	4XX		$q	A/N	
#	A/N	4XX		$k	A/N	
$	A/N	4XX		$t	A/N	
%n	A/N	4XX		$v	A/N	
*b	A/N	440		$a	A/N	Series Note, Traced (Title)
%n	A/N	440		$v	A/N	
*c	A/N	490		$a	A/N	Series Note, Not Traced
			1		0	
*d	A/N	490		$a		Series Note, Traced Differently
			1		1	
*e	A/N	015		$a	A/N	NBN
%	A/N	015		$a	A/N	
*f	A/N	504		$a	A/N	Bibliography Note
*g	A/N	507		$a	A/N	'In' Analytic Note
*h	A/N	502		$a	A/N	Dissertation Note
*i	A/N	505		$a	A/N	Contents Note
			1		0	If first word of A/N = 'contents'
			1		2	If first word of A/N = 'partial'
			1		1	If neither of the above is true
*j	A/N	501		$a	A/N	'Bound with' note
*k	A/N	500		$a	A/N	General Note. (Multiple occurrence of '*k' should be repeated $a in single 500 field.

(cont. on next page)

CON Fig. 11: B-FIELDS SPECIFICATIONS (CONT.)

INPUT		MARC				
CONTROL CODES	VALUE CODES	TAG	IND	DELIM	DATA	COMMENTS
*m	A/N	6XX		$a	A/N	Subject Tracings. The 6xx delimiters shown can apply to the following tracing types: 600 - Personal Author 610 - Corporate Author 611 - Conference 630 - Uniform Title 650 - Topical 651 - Geographic 652 - Political
%b	A/N	6XX		$b	A/N	
%c	A/N	6XX		$c	A/N	
%d	A/N	6XX		$d	A/N	
%e	A/N	6XX		$e	A/N	
%g	A/N	6XX		$g	A/N	
%x	A/N	6XX		$q	A/N	
#	A/N	6XX		$k	A/N	
$	A/N	6XX		$t	A/N	
		6XX	2		0	LC Subject Heading
*n						(Romanized Title) Deferred item
*p	A/N	503		$a	A/N	Bibliographic History Note
*q	A/N	7XX		$a	A/N	Non-Series Non-Subject Tracings. The 7xx delimiters shown can apply to the following tracing types: 700 - Personal Author 710 - Corporate Author 711 - Conference 730 - Uniform Title 740 - Title Traced Differently 753 - Proper name
%b	A/N	7XX		$b	A/N	
%d	A/N	7XX		$d	A/N	
%e	A/N	7XX		$e	A/N	
%g	A/N	7XX		$g	A/N	
%x	A/N	7XX		$q	A/N	
#	A/N	7XX		$k	A/N	
$	A/N	7XX		$t	A/N	
*r	A/N	8XX		$a	A/N	Series Traced Differently than note. The 8xx delimiters shown can apply to the following tracing types: 800 - Personal Author 810 - Corporate Author 811 - Conference 840 - Title
%b	A/N	8XX		$b	A/N	
%c	A/N	8XX		$c	A/N	
%d	A/N	8XX		$d	A/N	
%e	A/N	8XX		$e	A/N	
%g	A/N	8XX		$g	A/N	
%x	A/N	8XX		$q	A/N	
#	A/N	8XX		$k	A/N	
$	A/N	8XX		$t	A/N	
%n	A/N	8XX		$v	A/N	

(cont. on next page)

CON Fig. 11: B-FIELDS SPECIFICATIONS (CONT.)

INPUT		MARC				
CONTROL CODES	VALUE CODES	TAG	IND	DELIM	DATA	COMMENTS
*s	A/N	050		$a	A/N	LC Call Number. If *s is not followed by an A/N, then use field 090, $c subfield (local call no.)
*t	A/N	051		$a	A/N	LC copy Statements
%c	A/N			$c	A/N	
*u						See HOLDINGS subroutine
*v						Deferred field (Sears Subject Heading)
*w	A/N	082		$a	A/N	Dewey Decimal Number
%	A/N	082		$a	A/N	repeatable $a subfield
*x	A/N	010		$a	A/N	LC Card Number
*y	A/N	025		$a	A/N	Overseas Acquisition Number
!a	A/N	020		$a	A/N	Standard Book Number
!b	A/N	506		$a	A/N	'Limited Use' Note
!c	A/N	520		$a	A/N	'Abstract' Note
!e	A/N	6XX	2		2	NLM Subject Heading for subfields see '*m'
!f	A/N	6XX	2		3	NAL Subject Heading for subfields see '*m'
!g	A/N	6XX	2		4	Local Subject Heading for subfields see '*m'
!h	A/N	060		$a	A/N	NLM Call Number (If no A/N, then pick up field 090, $c subfield)
!i	A/N	070		$a	A/N	NAL Call Number (")
!j						Deferred at this time (NAL Subj. Category Number)
!k	A/N	040		$b	A/N	Coop Catalog Call Number. If no A/N then pick up field 090, $c subfield
!l						Deferred at this time (Special classification system)

(cont. on next page)

CON Fig. 11: B-FIELDS SPECIFICATIONS (CONT.)

INPUT		MARC				
CONTROL CODES	VALUE CODES	TAG	IND	DELIM	DATA	COMMENTS
!m	A/N	083		$a	A/N	Superintendent of Documents Catalog Number
			1		2	
!n	A/N	040		$a	A/N	Name of Coop Catalog Library
!p	A/N	508		$a	A/N	Full name notes
!q						(Title Romanized) Deferred item
!r						Translated title
!s	A/N	6XX	2		1	Annotated Card Program Subject Heading For subfields see '*m'
!v	A/N	083		$a	A/N	CSL Documents Number
			1		1	

CON Fig. 12: I-FIELDS SPECIFICATIONS

D = Digit
% = Delimiter
b̸ = Blank
0 = Zero
AC = Alpha Character (unspecified)
DEF.= Default (absence of both control code and value code)
A/N = Variable length alpha-numeric code

←INPUT→		←MARC→				
CONTROL CODES	VALUE CODES	TAG	IND	DELIM/ POSITION	DATA	COMMENTS
(1st	DDDD	008		7-10	DDDD	See DATES
Field)	DDDD	008		11-14	DDDD	Subroutine
	DEF.	008		7-14	blanks	
b	AC	008		6	AC	Type of Date
	DEF.	008		6	s	
c	a	050	1		1	LC Call No. Bracketed
	DEF.	050	1		0	Only if field 050 exists
e	AC	008		39	AC	Cataloging source
	DEF.	008		39	b̸	
g	AC	008		23	AC	Form of Repro.
	DEF.	008		23	b̸	
h	AC	008		24	AC	Content Form
h	DEF.	008		24	b̸	(Same specification applies to positions 25,26,27)
i	a	008		34	a	Biography code
	b	008		34	b	
	c	008		34	c	
	DEF.	008		34	b̸	
i	d	008		22	j	Juvenile Indicator
	DEF.	008		22	b̸	
i	e	008		33	1	Fiction Indicator
	DEF.	008		33	0	

(cont. on next page)

CON Fig. 12: I-FIELDS SPECIFICATIONS (CONT.)

INPUT		MARC				
CONTROL CODES	VALUE CODES	TAG	IND	DELIM/ POSITION	DATA	COMMENTS
j	AC					See TRACINGS Subroutine
k	AC	008		28	AC	Gov't. Pub. Indicator
	DEF.	008		28	ƀ	
m	a	008		29	1	Conference Ind.
	DEF.	008		29	0	
n	a	008		38	1	Non-Keyable Symbols Ind.
	DEF.	008		38	0	
q	a	245	1		0	Title A.E. Indicator
	DEF.	245	1		1	
r	a	245	2		0	2nd Title A.E. Indicator
	DEF.	245	2		1	
sa	A/N	008		35-37	A/N	First 3 char. of A/N
		041		$a	A/N	if A/N is > 3 chars.
%	A/N	041		$b	A/N	
	DEF.	008		35-37	eng	Language code
t	a	041	1		1	Translation
	DEF.	041	1		0	Only if 041 exists
ua	pb	100	1		2	Set 1XX tag + Ind. 1
	pc	100	1		0	"
	pd	100	1		3	"
	ca	110	1		1	"
	cb	110	1		2	"
	cc	110	1		0	"
	fa	111	1		1	"
	fb	111	1		2	"
	fc	111	1		0	"
	ua	130	1		0	"
	sa	130	1		1	"
	DEF.	100	1		1	"

(cont. on next page)

CON Fig. 12: I-FIELDS SPECIFICATIONS (CONT.)

INPUT		MARC				
CONTROL CODES	VALUE CODES	TAG	IND	DELIM/ POSITION	DATA	COMMENTS
u	b	1XX	2		1	Main Entry is Subject
	DEF.	1XX	2		0	
u	c	260	1		1	Publisher is M.E.
	DEF.	260	1		0	
u	d	008		32	1	M.E. Repeated in Body
	DEF.	008		32	0	
wa						See HOLDINGS subroutine
wb						" " "
wc						" " "
wd						" " "

HOLDINGS Subroutine

The holdings statement field, tag 090, defines all the location, call number and copy data for a library/branch. The field has the following subfields:

$a - 7 digits: library code (3 digits), library branch (2 digits), number of copies held (2 digits)

$c - call number of the book assigned by local library

$e - copy data, as textual comment

$f - special shelf location

The field is constructed from three input code sources: 1) the first A-Field slash (/); 2) B-Field code *u; 3) I-Field w-codes. An entry may contain more than one 090 field (e.g., if branch holdings are recorded).

The three field codes map into the 090 field in the following way:

Control Code	Value Codes	Tag	Ind.	Delim	Data	Comments
1st /	A/N	090		$c	A/N	Map into first 090 field.
%c	A/N	090		$e	A/N	
%d	A/N	090		$f	A/N	
*u	A/N	090		$c	A/N	Map into (2nd, 3rd, 4th) 090 fields.
%c	A/N	090		$e	A/N	
%d	A/N	090		$f	A/N	
wa	7D	090		$a	A/N	Map into 1st 090 field
wb	7D	090		$a	A/N	Map into 2nd 090 field
wc	7D	090		$a	A/N	Map into 3rd 090 field
wd	7D	090		$a	A/N	Map into 4th 090 field

The construction is straighforward with the following exceptions: 1) *u: if there is no A/N data then use $c subfield from first 090 field; 2) After all 090 fields in an entry are built, compare the first 5 digits of $a subfields (system + branch codes) of all 090 fields. If any two match, combine the fields by: (a) adding together the number of copies (last 2 digits of $a), and (b) creating an additional string of $c, $e, $f subfields if required. Example:

FIRST 090: $a 0019002 $c380.D12
SECOND 090: $a 0019003 $c380.D12a $e Same: Rev. ed. 1934
COMBINED 090: $a 0019005$c380.D12 $c380.D12a $e Same: Rev. ed. 1934.

ILLUS Subroutine

The illustration code data element in MARC is not explicitly set via editorial code. An indeterminate string of illustration statements is identified for the Collation field (tag 300, subfield $b) by the 9th A-Field slash. However, a specific set of codes must also be set in positions 18-21 of the MARC field 008.

These codes are set by the programs examining the text contained in tag 300, subfield $b, and setting appropriate codes into field 008. Eleven distinct codes are to be identified and there can be up to four such codes in each record. The following table gives the text-to-code correspondences. Only as much of the text is given as is necessary for identification.

Text	Code	Comment
il	a	illustration
ma	b	map(s)
po	c	portraits
ch	d	charts (rare)
plan	e	plans
plat	f	plates
mu	g	music
fa	h	facsimiles
coa	i	coat of arms (rare)
ge	j	genealogical tables (rare)
fo	k	forms

The following examples will illustrate:

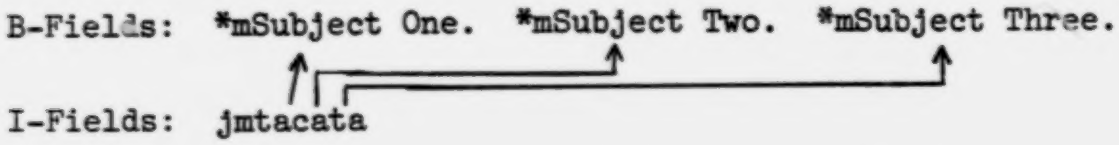
Text: illus., coats of arms, plates

Codes: a i f b̸

Note that blanks are used as padding to complete the four position code set. In the rare case that there is an additional $b subfield, the second subfield should be ignored (on the grounds that it is uneconomical to search for the occurrence of a rare case).

TRACINGS Subroutine

Added entries have been separated into a subroutine formulation, not because of logic so much as the extent of the data involved. It should be noted however that the j-codes for tracings apply to the fields already created by the B-Fields *a, *r, *m, and *q. In addition there may be several tracings, each of which gets a separate B-Field code. The j-codes of the I-Fields are meant to apply serially in order to each B-Field code:

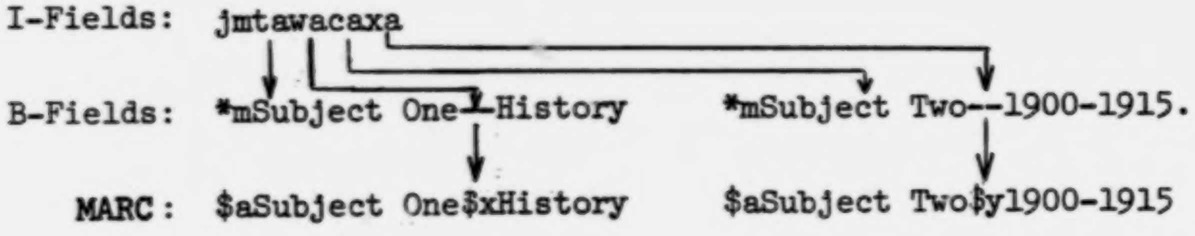


```
B-Fields:  *mSubject One.  *mSubject Two.  *mSubject Three.

I-Fields:  jmtacata
```

Thus, both the first B-Field and the first I-Field map into the first MARC subject tracing field, the second B-Field and second I-Field map into second MARC field, etc. The only minor exception to this occurs in 'jm' (subject tracings) where there may also be subdivision codes.

Subdivision codes require additional explanation. First, they are not explicitly delimited by a B-Field code. We rely instead on its natural punctuation: an em-dash, to be punched as two dashes (--). In the MARC record, the double dash is to be replaced by an appropriate subdivision subfield delimiter, based on what is in the 'jm' I-Field string. For example:



```
I-Fields:  jmtawacaxa

B-Fields:  *mSubject One--History      *mSubject Two--1900-1915.

    MARC:  $aSubject One$xHistory      $aSubject Two$y1900-1915
```

The remainder of this section will provide the detailed input-code-to-MARC-code specifications for the four types of tracings involved. The format will be the same detail specification table used in the preceding sections. Note that there is a high level of correspondence between j-codes and 'ua' codes.

CON Fig. 13: SERIES TRACED SAME SPECS

(SEE: B-FIELD CODE *a)

INTRODUCED BY: MAJOR CONTROL CODE ja (e.g., japacapa)

INPUT		MARC				
Control Codes	Value Codes	TAG	IND	DELIM	DATA	COMMENT
p	a,e	400	1		1	Set 4XX tag + Ind 1
	b,f	400	1		2	"
	c,g	400	1		0	"
	d,h	400	1		3	"
	a,b,c,d	400	2		0	Set 4XX tag + Ind 2
	e,f,g.h	400	2		1	"
c	a,d	410	1		1	Set 4XX + Ind 1
	b,e	410	1		2	"
	c,f	410	1		0	"
	a,b,c	410	2		0	Set 4XX + Ind 2
	d,e,f	410	2		1	"
f	a,d	411	1		1	Set 4XX + Ind 1
	b,e	411	1		2	"
	c,f	411	1		0	"
	a,b,c	411	2		0	Set 4XX + Ind 2
	d,e,f	411	2		1	"

CON Fig. 14: SERIES TRACED DIFFERENTLY SPECS

(SEE: B-FIELD CODE *r)

INTRODUCED BY: MAJOR CONTROL CODE jr (e.g., jrpapbpa)

INPUT		MARC				
Control Codes	Value Codes	TAG	IND	DELIM	DATA	COMMENTS
p	a	800	1		1	Set 8XX + Ind 1
	b	800	1		2	"
	c	800	1		0	"
	d	800	1		3	"
c	a	810	1		1	Set 8XX + Ind 1
	b	810	1		2	"
	c	810	1		0	"
f	a	811	1		1	Set 8XX + Ind 1
	b	811	1		2	"
	c	811	1		0	"
s	a	840				Set 8XX

CON Fig. 15: NON-SUBJECT, NON-SERIES TRACINGS SPECS

(SEE: B-FIELD CODE *q)

INTRODUCED BY: MAJOR CONTROL CODE jq (e.g., jqpapepa)

INPUT		MARC				
Control Codes	Value Codes	TAG	IND	DELIM	DATA	COMMENT
p	a,e,i	700	1		1	Set 7XX + Ind 1
	b,f,j	700	1		2	"
	c,g,k	700	1		0	"
	d,h,m	700	1		3	"
	a,b,c,d	700	2		0	Set 7XX + Ind 2
	e,f,g,h	700	2		1	"
	i,j,k,m	700	2		2	"
c	a,d,g	710	1		1	Set 7XX + Ind 1
	b,e,h	710	1		2	"
	c,f,i	710	1		0	"
	a,b,c	710	2		0	Set 7XX + Ind 2
	d,e,f	710	2		1	"
	g,h,i	710	2		2	"
f	a,d,g	711	1		1	Set 7XX + Ind 1
	b,e,h	711	1		2	"
	c,f,i	711	1		0	"
	a,b,c	711	2		0	Set 7XX + Ind 2
	d,e,f	711	2		1	"
	g,h,i	711	2		2	"

(continued on next page)

CON Fig. 15 (CONT.)

INPUT		MARC				
Control Codes	Value Codes	TAG	IND	DELIM	DATA	COMMENT
u		730	1		0	Set 7XX + Ind 1
s		730	1		1	"
u,s	a	730	2		0	Set 7XX + Ind 2
	b	730	2		1	"
	c	730	2		2	"
b	a	740	2		0	Set 7XX + Ind 2
	b	740	2		1	"
	c	740	2		2	"
n	a,c,e	750	1		0	Set 7XX + Ind 1
	b,d,f	750	1		1	"
	a,b	750	2		0	Set 7XX + Ind 2
	c,d	750	2		1	"
	e,f	750	2		2	"

CON Fig. 16: SUBJECT TRACING SPECS

(SEE: B-FIELD CODES *m, !e, !f, !s)

INTRODUCED BY: MAJOR CONTROL CODE jm (e.g., jmpawapa)

INPUT		MARC				
Control Codes	Value Codes	TAG	IND	DELIM	DATA	COMMENT
p	a	600	1		1	Set 6XX + Ind 1
	b	600	12		2	"
	c	600	1		0	"
	d	600	1		3	"
c	a	610	1		1	Set 6XX + Ind 1
	b	610	1		2	"
	c	610	1		0	"
f	a	611	1		1	Set 6XX + Ind 1
	b	611	1		2	"
	c	611	1		0	"
u	a	630	1		0	Set 6XX + Ind 1
s	a	630	1		1	"
b	a	630	1		2	"
t	a	650	1		0	Set 6XX + Ind 1
	b	650	1		1	"
g	a	651	1		0	Set 6XX + Ind 1
	b	651	1		1	"
d	a	652				Set 6XX + Ind 1
w	a	6XX		$x		Set 6XX Subdivision subfield
x	a	6XX		$y		"
y	a	6XX		$z		"

III. LIST Program

As its name implies, the main function of the LIST program is to provide proofreading output for bibliographic editors. However this is not entirely a matter of usual format/print routines. LIST includes:

a) Detection and analysis of possible error conditions
b) Formulation of error messages
c) Structuring a MARC output format

This section of the CON chapter will attempt to identify potential error conditions in the conversion record, and will specify a MARC structure output format.

The input to the LIST program is the output of TRANS, that is to say, a record in MARC II machine format. (Thus MARC tapes may also be printed record-by-record via LIST; LIST may also be used to print records being added to BIB MSTR file via FILE MAINTENANCE subsystem, see chapter MAINT.)

ERROR CHECKING

All error checking done in the CON system is therefore performed on the MARC form record. No editing is done to input codes; the codes are processed by TRANS directly, without checking legality or consistency, although a limited number of error messages may be generated by the TRANS program: e.g. fewer than 10 A-Fields, unrecognizable i-code, etc. CON Diagnostic messages are interleaved with the LIST printout; both the printout and its error messages are oriented to the MARC record. (A similar orientation to the MARC record will also control the processing logic of the FIX program.)

The following table of error conditions is therefore presented in MARC order. For the sake of completeness, all the MARC fields are listed. However those fields or subfields marked with an * (asterisk) should not be edited for content since they are set by the program rather than by input code. (However, during debug runs, even those fields may be edited to check the accuracy of the TRANS program.)

One further point: The range values, and the correlations, are usually given on a statistical basis. That is, what is expected in a large majority of uses. The diagnostic messages are thus for calling the proofreader's attention to an unusual occurrence, rather than signalling a catastrophic error. Proposed error messages are not given in the Error Condition Table.

CON Fig. 17: FIELD 008 ERROR CONDITION TABLE

D = Digit
b̸ = Blank
A = Alphabetic data
N = Numeric data
M = Mixed alphameric
* = Do not edit

FIELD NO.	POS.	LEGAL CODES	COMMENTS
1	0-5	DDDDDD	
2	6	s	Date 1 = DDDD and Date 2 = b̸b̸b̸b̸
		c	Date 1 = DDDD and Date 2 = DDDD
		q	Date 1 = DDDD and Date 2 = DDDD; also Date 1 Date 2
		n	Date 1 = b̸b̸b̸b̸ and Date 2 = b̸b̸b̸b̸
		m	Date 1 = DDDD
		r	Date 1 = DDDD
3	7-10	DDDD b̸b̸b̸b̸	Date 1
4	11-14	DDDD b̸b̸b̸b̸	Date 2
*5	15-17	AAA,b̸b̸b̸	
*6	18	a-k, b̸	This field is set by program. Don't edit.
	19	a-k, b̸	
	20	a-k, b̸	
	21	a-k, b̸	

(cont. on next page)

CON Fig. 17 (CONT.)

FIELD NO.	POS.	LEGAL CODES	COMMENTS
*7	22	j, b̸	
8	23	a-d, b̸	
9	24		b, c, i, a, d, e, r, y, s, h, p, b̸
	25		"
	26		"
	27		"
*10	28	0, 1	
11	29	0, 1	If 1, then main entry should be 111
*12	30	b̸	Set by program
*13	31	b̸	Set by program
14	32	0, 1	If 1, check 245 $c for author statement (see error conditions, tag 245,$c
*15	33	0, 1	
16	34	a, b, c, b̸	If code = a, tag 100 Ind 2 = 1
17	35-37	AAA	If field 041 exists, then editing is performed against that field. Else check Lang. Table
*18	38	0, 1	
19	39	a-f, b̸	

CON Fig. 18: VARIABLE FIELDS ERROR CONDITION TABLE

D = Digit
b̸ = Blank
A = Alphabetic Data
N = Numeric Data
M = Mixed Alphanumeric
* = Do not edit

Tag	Ind 1	Ind 2	Sub-field	Range	Correlations/Comments	Subfield Mnemonic
010	b̸	b̸	$a	M		
015	b̸	b̸	$a	M		
020	b̸	b̸	$a	N		
025	b̸	b̸	$a	M		
040	b̸	b̸	$a	M		
041	0	b̸	$a	A	$a subfield must contain at least two 3-character language codes	TEXT
	1		$b	A		SUM
050	0	b̸	$a	M		CLASS
	1		$b	M		BOOK
051	0	b̸	$a	M		CLASS
	1		$b	M		BOOK
			$c	M		COPY
060	b̸	b̸	$a	M		CLASS
			$r	M		BOOK
070	b̸	b̸	$a	M		CLASS
			$r	M		BOOK
082	b̸	b̸	$a	M		
083	b̸	b̸	$a	M		
090	b̸	b̸	$a	7N	DDD = System, DD = Branch DD = No. of copies	HOLD
			$c	M		CALL
			$e	M	$e subfield repeatable	COPY
			$f	M	$f subfield is repeatable	LOC

(cont. on next page)

CON Fig. 18 (CONT.)

Tag	Ind 1	Ind 2	Sub-field	Range	Correlations/Comments	Subfield Mnemonic
100	0	0	$a	A	Subfield $a required (If Ind 2 = 1, then field 008 pos 34 = a)	NAME
	1	1	$b	A		NUM
	2		$c	M		DESIG
	3		$d	N	$b-allow roman numerals only	DATE
			$e	A	$d-allow b., d., fl.	REL
			$q	A		PSEUD
			$k	A		FORM
			$t	A		BOOK
110	0	0	$a	A	Subfield $a required	NAME
	1	1	$b	M		SUB
	2		$e	A	Subfield $e is repeatable	REL
			$k	A		FORM
			$t	A		BOOK
111	0	0	$a	A	Subfield $a required	NAME
	1	1	$b	M		NUM
	2		$c	A		PLACE
			$d	N		DATE
			$e	A	Subfield $e is repeatable	SUB
			$g	A		MISC
			$k	A		FORM
			$t	A		BOOK
130	0	0	$a	A	Subfield $a required	HEAD
	1	1	$t	A		BOOK

Note: 100, 110, 111, 130 are mutually exclusive tags; also absence of all 1XX tags is allowed.

(cont. on next page)

CON Fig. 18 (CONT.)

Tag	Ind 1	Ind 2	Sub-fields	Range	Correlations/Comments	Subfield Mnemonic
245					Field 245 always required	
	0	0	$a	A		SHORT
	1	1	$b	A		SUB
			$c	A	(If pos 32, fld 008 = 2, search for author statement)[@]	T.P.
250	b̸	b̸	$a	M	Subfield $a required	EDIT
			$b	M		OTHER
260	0	b̸	$a	A	if $a absent, insert "n.p."	PLACE
	1		$b	A	if $b absent, Ind 1 should = 1	PUB
			$c	N	if $c absent, insert "n.d."	DATE
300	b̸	b̸	$a	M	$a is required	PAGE
			$b	M		ILLUS
			$c	N		SIZE
					Note: $a, $b, $c are repeatable in rare cases	
350	b̸	b̸	$a	M	$a required	
400	0	0	$a	A	$a subfield required. (If Ind 2 = 1, $a = His or Her)	NAME
	1	1	$b	A	$b - roman numerals only	NUM
	2		$c	M		DESIG
	3		$d	N	$d - allow "b; d., fl."	DATE
			$e	A		REL
			$k	A		FORM
			$t	A	$t subfield required	BOOK
			$v	M		VOL

[@] author statement is defined as data in 1XX $a data element in inverted order: eg. 1XX, $a = Smith, John; 245 $c = by John Smith.

(cont. on next page)

CON Fig. 18 (CONT.)

Tag	Ind 1	Ind 2	Sub-fields	Range	Correlations/Comments	Subfield Mnemonic
410	0	0	$a	A	$a subfield required. (If Ind 2 = 1, $a = Its or Their or contain a possessive (Society's))	NAME
	1	1	$b	M		SUB
	2		$e	A		REL
			$k	A		FORM
			$t	A	$t subfield required	BOOK
			$v	M		VOL
411	0	0	$a	A	$a: same as above	NAME
	1	1	$b	M		NUM
	2		$c	A		PLACE
			$d	N		DATE
			$e	A		SUB
			$g	A		MISC
			$k	A	$t subfield required	BOOK
			$v	M		VOL
440	b̸	b̸	$a	A	$a subfield required	BOOK
			$v	M*		VOL
490	0	b̸	$a	M*	if Ind 2 = 1, there should exist at least one 8XX field	
	1					
500	b̸	b̸	$a	M	$a subfield must be present.	
501	b̸	b̸	$a	M	"	
502	b̸	b̸	$a	M	"	
503	b̸	b̸	$a	M	"	
504	b̸	b̸	$a	M	"	

(cont. on next page)

CON Fig. 18 (CONT.)

Tag	Ind 1	Ind 2	Sub-field	Range	Correlations/Comments	Subfield Mnemonic
505	0	b̸	$a	M	$a Subfield must be present	
	1					
	2					
506	b̸	b̸	$a	M	"	
507	b̸	b̸	$a	M	"	
508	b̸	b̸	$a	M	"	
520	b̸	b	$a	M	"	
600	0	0	$a	A	$a subfield required	NAME
	1	1	$b	A	$x, $y, $z subfields may not contain '--'	NUM
	2	2	$c	M	$b roman numerals only	DESIG
	3	3	$d	N	$d allow "b., d., fl."	DATE
			$q	A		PSEUD
			$k	A		FORM
			$t	A		BOOK
			$x	A		GEN
			$y	M	$x, $y, $z are repeatable	CHRON
			$z	A		PLACE
610	0	0	$a	A	$a subfield required	NAME
	1	1	$b	M		SUB
	2	2	$k	A		FORM
		3	$t	A		BOOK
			$x	A		GEN
			$y	M	See 600	CHRON
			$z	A		PLACE

(cont. on next page)

CON Fig. 18 (CONT.)

Tag	Ind 1	Ind 2	Sub-fields	Range	Correlations/Comments	Subfield Mnemonic
611	0	0	$a	A	$a subfield required	NAME
	1	1	$b	M		NUM
	2	2	$c	A		PLACE
		3	$d	N		DATE
			$e	A		SUB
			$g	M		MISC
			$k	A		FORM
			$t	A		BOOK
			$x	A	See 600	GEN
			$y	M		CHRON
			$z	A		PLACE
630	0	0	$a	A	$a subfield required	HEAD
	1	1	$t	A		BOOK
		2	$x	A	See 600	GEN
			$y	M		CHRON
		3	$z	A		PLACE
650, 651, 652	b̸	0	$a	A	$a subfield required	HEAD
		1	$x	A	See 600	GEN
		2	$y	M		CHRON
		3	$z	A		PLACE

(cont. on next page)

CON Fig. 18 (CONT.)

Tag	Ind 1	Ind 2	Sub-fields	Range	Correlations/Comments	Subfield Mnemonic
700	0	0	$a	A	$a subfield is required	NAME
	1	1	$b	A	$b - roman numerals only	NUM
	2	2	$c	M		DESIG
	3		$d	N	$d allow "b., d., fl."	DATES
			$e	A		REL
			$q	A		PSEUD
			$k	A	(If Ind 2 = 0, $t subfield is illegal)	FORM
			$t	A	(If Ind 2 = 2, $t subfield is required)	BOOK
710	0	0	$a	A	same as tag 700	NAME
	1	1	$b	M		SUB
	2	2	$e	A		REL
			$k	A		FORM
			$t	A		BOOK
711	0	0	$a	A	same as tag 700	NAME
	1	1	$b	N		NUM
	2	2	$c	A		PLACE
			$d	N		DATE
			$e	A		SUB
			$g	A		MISC
			$k	A		FORM
			$t	A		BOOK

(cont. on next page)

CON Fig. 18 (CONT.)

Tag	Ind 1	Ind 2	Sub-field	Range	Correlations/Comments	Subfield Mnemonic
730	0 1	0 1 2	$a $t	A A	$a subfield required	HEAD BOOK
740	b	0 1 2	$a	A	$a subfield required	
750	0 1	0 1 2	$a		$a subfield required	
800 810 811 840		b̸ b̸ b̸ b̸			same as tag 400, except Ind 2=b̸ same as tag 410, except Ind 2=b̸ same as tag 411, except Ind 2=b̸ same as tag 440, except Ind 2=b̸	
					Note: 8XX, subfield $a may not contain word "Series"	

OUTPUT FORMAT

The basic intention of the LIST output format is to display to a proofreader the MARC format of the record being converted. We are not concerned at all with a display of the input codes or input stream image, since all correction will be oriented to MARC rather than to input codes. There are several different ways of displaying the MARC record. The format proposed here has been designed to facilitate proofreading and visual scanning. A schematic of this format is given in CON Fig. 2.

The basic formatting algorithm is break up a field into its identified subfields, while still preserving visual continuity. For example, consider the following MARC field 245 (Title):

```
IND

1 1$aHow To Solve It; $b A New Aspect of Mathematical Method
   $c by G.M. Polya
```

This would be formatted as follows:

```
TITLE 245  11
Short      $a How To Solve It;
Sub.       $b     A New Aspect of Mathematical Method
T.P.       $c          by G.M. Polya
```

This is a slightly more editor-oriented version of the format in CON Fig. 2. Each subfield is indented five spaces in from the previous line in order to emphasize its separateness as a subfield. In CON Fig. 2, the same spacing pattern was utilized, with subfields identified by separate lines. The tags, indicators and subfields are explicitly presented to facilitate correction re-entry.

Field specific error messages would be given on the tag line:

```
M E PERS     100    20 (ERROR - $e CONTAINS NUMERIC DATA)
Name                $a Webb, Walter Prescott
Rel                 $e       1888-

IMP          260       (ERROR - $b CONTAINS NUMERIC DATA)
Place               $a New York
Pub                 $b      Grosset and Dunlap  (1957,c1931)
```

The error messages are really diagnostic-flags to the editor that something unusual has occurred. The error conditions have no machine value; i.e. they are flags and will not prevent an entry's passing through the CON system if an editor chooses to ignore the diagnostic. The only case in which this is not true is if the short title field is missing (tag 245, $a).

The format described above holds for all MARC variable field data. With respect to fixed field data, specifically, field 008, the situation is slightly different. Field 008 is actually a collection of nineteen distinct subfields, each identified by a fixed position in the field. Of the nineteen, four are not used in the CSL-PC (date entered on file, country of publication, festschrift, index). Of the remaining fifteen, eight are infrequent - less than 25% of the file (Date 2, juvenile, type of work, form of reproduction, content form, government, biography, language, modified record or non-keyable data), while five of the remaining seven codes are in the 60% frequency range.

The logical conclusion then would be to list line by line all subfields not in the default mode (e.g. where language is other than English, cataloging other than LC, etc.). Instead of subfields, the initial character position is given. Codes are given both in cipher and clear text enclosed in parentheses.

```
FIXED   008      (ERROR - inconsistent date type/date fields)
D Type     06    s - (single date)
Date 1     07    1951
Date 2     11    1931
Illus      18    a-(illustration), f-(plates), h-(facsimile)
```

The following table represents all the field 008 subfields with mnemonic tags proposed, plus text representations of various code values. CON Fig. 20 gives the mnemonics for MARC fields. Subfield mnemonics have already been given in the Error Condition Table, CON Fig. 18.

CON Fig. 19: FIELD 008 SUBFIELD MNEMONICS

FIELD NO.	POS.	MNEMONIC	CODE VALUE	TEXT VALUE
2	6	DTYPE	s	single date
			c	pub + copyright
			n	unknown
			r	orig + repro
			m	multiple
			q	td missing
3	7-10	DATE 1		
4	11-14	DATE 2		
6	15-17	ILLUS	a	illus
			b	maps
			c	port
			d	charts
			e	plans
			f	plates
			g	music
			h	fascim
			i	coats of arms
			j	geneal
			k	forms
7	22	LEVEL	j	juven
8	23	REPRO	a	film
			b	fiche
			c	opaque
			d	large
9	24-27	FORM	b	bibl
			c	cat
			i	index
			a	abstract
			d	dict

(cont. on next page)

CON Fig. 19 (CONT.)

FIELD NO.	POS.	MNEMONIC	CODE VALUE	TEXT VALUE
9 (cont.)	24-27	FORM	e r y s h p	encyc dir year book stat handbook prog text
10	28	GOVT	1	yes
11	29	CONF	1	yes
14	32	ME BODY	1	yes
15	33	FICT	1	yes
16	34	BIOG	a b c	auto ind coll
17	35-37	LANG	Any trigram other than eng.	
18	38	MODIF	1	yes
19	39	CAT	a b c d	NAL NLM Co-op origin

CON Fig. 20: MARC VARIABLE FIELDS - MNEMONICS

Tag	Mnemonic
008	DESCR
010	LC CARD
015	NBN
020	SBN
025	OAN
040	CAT
041	LANG
050	LC CALL
051	LC COPY
060	NLM CALL
070	NAL CALL
082	DDC
090	PC CALL
100	ME PERS
110	ME CORP
111	ME CONF
130	ME UT
240	SUP TITL
241	ROM TITL
245	TITL
250	EDIT
260	IMPR
300	COLL
350	PRICE
400	SN PERS
410	SN CORP
411	SN CONF
440	SN TITL
490	SN UNTR
500	BN GEN
501	BN BND
502	BN DISS
503	BN HIST
504	BN BIB
505	BN CONT
507	BN ANAL
508	BN NAME
520	BN ABST
600	SUB PERS
610	SUB CORP
611	SUB CONF
630	SUB UT
650	SUB TOP
651	SUB GEO
652	SUB POL
700	AE PERS
710	AE CORP
711	AE CONF
730	AE UT
740	AE TITL
750	AE PROPER
800	SER PERS
810	SER CORP
811	SER CONF
840	SER TITL

IV. FIX PROGRAM

The task of the FIX program is to propose a general scheme for correcting entries in the CON system and to develop a method of implementing the scheme. The record being corrected is the MARC format of the entry being converted. Thus the following portions of the record may require correction:

- IDENTIFIERS
  - Field Tags
  - Field Indicators
  - Subfield Delimiters
- DATA
  - Fields
  - Subfields
  - Words
  - Codes

Since subfield delimiters are embedded within the data itself, they will be treated for the most part as data.

DEFINITIONS. A general DATA correction scheme can be built around the following pattern: LOC 1 OP LOC 2. LOC 1 represents the location at or to which some corrective action is to be taken, OP is the correcting function, and LOC 2 represents the location or literal string from which the correcting data is to be drawn.

An entire system can be constructed using only two primitive correcting functions: DELETE and COPY. Assume the following rules:

a. LOC 1 can specify a single character position in the record.

b. LOC 1 can specify a string of characters/words in the record.

c. LOC 2 can specify a literal string in or not in the record.

d. LOC 2 can specify the location of a string of characters/words in the record.

e. DELETE means delete data in LOC 1 and/or LOC 2.

f. COPY means copy data from LOC 2 into LOC 1.

Based on the rules given on the preceding page, the following capabilities can then be built up (D = DELETE; C = COPY)

FORM	CAPABILITY
LOC 1 D	1. Delete word/string specified by LOC 1.
LOC 1 C LOC 2	2. Insert at LOC 1 a copy of data specified by LOC 2. LOC 2 may be a literal string or may refer to the location of a string in the record. No change is made to data at LOC 2.
LOC 1 D+C LOC 2	3a. Delete word/string specified by LOC 1. 3b. Insert at LOC 1 a copy of data specified by LOC 2 (literal or location). No change to LOC 2 data.
LOC 1 C+D LOC 2	4a. Insert at LOC 1 a copy of data specified by LOC 2 (may only be location, not literal). 4b. Delete word/string specified by LOC 2.
LOC 1 D+C+D LOC 2	5a. Delete word/string specified by LOC 1. 5b. Insert at LOC 1 a copy of data specified by LOC 2 (may not be literal). 5c. Delete word/string specified by LOC 2.

Note that COPY is unidirectional; that is, it always implies a transfer of data from LOC 2 to LOC 1. DELETE, on the other hand, can apply to either LOC 1 (forms 1,3,5) or to LOC 2 (forms 4,5) or to both (form 5).

Before presenting any examples, it is necessary to develop the formats of LOC 1 and LOC 2. There are three formats possible:

Format	Example
1. Tag % Word	245% Weaver
2. Tag % Word...Word	245% by...Weaver
3. 'Literal String'	'by Carl H. Weaver'

Format 3 ('Literal String') is not used for LOC 1. Other format uses are dependent on the form of the expression used. The following tables give the legal and illegal form/format combinations (CON Figs. 21 and 22).

CON Fig. 21: LEGAL FIX EXPRESSIONS

Form	LOC 1	OP	LOC 2
1)	245% Dog	DELETE	not used
	245% Dog...Cat	DELETE	not used
2)	245% Dog	COPY	260% and...Cat
	245% Dog		'and Its Relationship to Cat'
3)	245% Frog	DELETE+COPY	260% Dog...Cat
	245% Frog	DELETE+COPY	'Dog and Its Relationship to Cat'
	245% Frog...Bat	DELETE+COPY	260% Dog...Cat
	245% Frog...Bat	DELETE+COPY	'Dog and Its Relationship to Cat'
4)	245% Dog	COPY+DELETE	260% and
	245% Dog	COPY+DELETE	260% and...Cat
5)	245% Frog	DELETE+COPY+DELETE	260% Dog
	245% Frog	DELETE+COPY+DELETE	260% Dog...Cat
	245% Frog...Bat	DELETE+COPY+DELETE	260% Dog
	245% Frog...Bat	DELETE+COPY+DELETE	260% Dog...Cat

CON Fig. 22: ILLEGAL FIX EXPRESSIONS

Form	LOC 1	OP	LOC 2
1)	'Literal String'	DELETE	(none allowed)
2)	'Literal String'	COPY	(any)
	245% Dog...Cat	COPY	(any)
	(any)	COPY	260% Dog
3)	'Literal String'	DELETE+COPY	(any)
	(any)	DELETE+COPY	260% Dog
4)	'Literal String'	COPY+DELETE	(any)
	245% Dog...Cat	COPY+DELETE	(any)
	(any)	COPY+DELETE	'Literal String'
5)	'Literal String'	DELETE+COPY+DELETE	(any)
	(any)		'Literal String'

<u>SUMMARY</u>. The legality rules which may be summarized are:

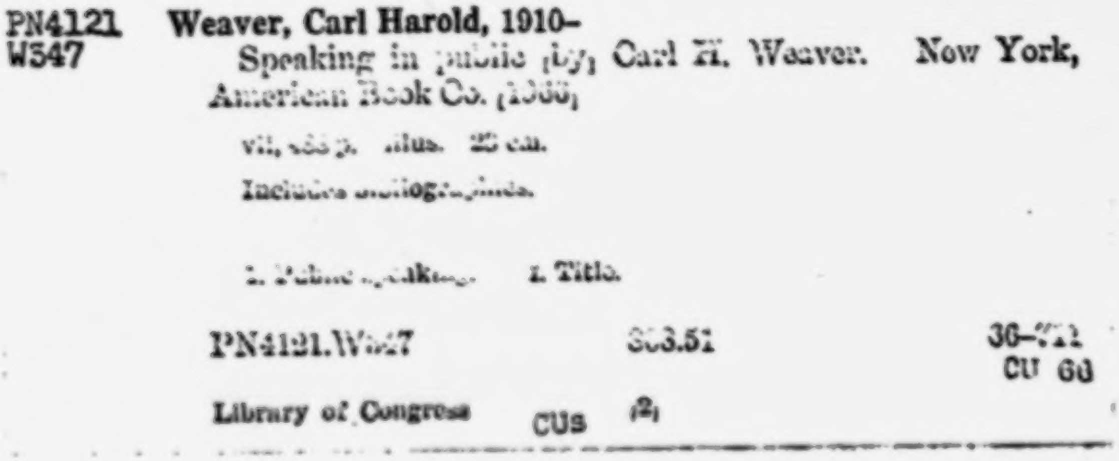
a. 'Literal String' is never an acceptable format for LOC 1.

b. 'Tag % Word...Word' is acceptable for LOC 1 only when there is a DELETE operation specified (forms 1,3,5) for LOC 1.

c. 'Literal String' is not an acceptable format for LOC 2 when there is a DELETE operation specified for LOC 2 (forms 4,5).

d. 'Tag % Word' is not acceptable for LOC 2 when a COPY operation is specified (forms 2,3) without a DELETE to LOC 2. (This is the case because it is identical in effect to a 'Literal String' consisting of the word specified in 'Tag % Word'.)

We can now present a simple example:



PN4121 **Weaver, Carl Harold, 1910-**
W347 Speaking in public [by] Carl H. Weaver. New York, American Book Co. [1966]

vii, [illegible] p. illus. 23 cm.

Includes bibliographies.

1. Public speaking. I. Title.

PN4121.W347 808.51 66-[illegible]
CU 68

Library of Congress CUs [2]

<u>PRINTOUT</u>

```
Title 245
        $a Speaking in Publik
Impr 260    (ERROR- Numeric data in $b subfield)
        $a by Carl H. Weaver.  New York.
        $b American Book Company, 1966.
                    CORRECTIONS                          RESULT
A.  245% Publik DELETE+COPY 'Public $c'      245 $a Speaking in Public
                                                 $c

B.  245% $c COPY+DELETE 260% by...Weaver.  245 $a Speaking in Public
                                                 $c by Carl H. Weaver
                                            260 $a New York,
                                                $b American Book Company, 1966

C.  260% Company, COPY '$c'                 260 $a New York
                                                $b American Book Company,
                                                $c 1966
```

SUBFIELD DELIMITERS. As shown in the example on the preceding page, subfield delimiters may be treated as data and inserted as a COPY 'Literal String' operation. Further they may be used as locators, even though they are not separated by a blank on the right. That is to say, a delimiter has the exact equivalent of a word. Thus: 'Tag % $n DELETE' means delete the subfield delimiter $n, much as 'Tag % Cat DELETE' means delete the word 'Cat'.

The following example illustrates how this can operate to insert new data to the left of the existing subfield string:

Data: 245 $a in Public
Correction: 245% $a COPY 'Speaking'
Result: 245 $a Speaking in Public

Similarly, 'Tag % $n...$m' specifies the entire data string between $n and $m, including the two delimiters themselves. 'Tag $ Word...$m' and 'Tag % $n...Word' are also permitted forms.

FIELD TAGS. Field tags are also correctable. Changing an existing tag is of the form Tag %% COPY 'TAG', e.g. 100%% COPY '110'.

The result would be to change the 100 tag to 110. Using DELETE in this context means to erase the entire field, not just the tag:

Data: 245 $a Garbage In, Garbage Out
FIX: 245%% DELETE
Result: Entire 245 field deleted
or
FIX: %260 Program COPY+DELETE 245%%
Result: Entire 245 field copied, then deleted

Creating a new field does not fit directly into the operations specified thus far. It requires a new operator: IDENTIFY, and requires the following form:

Tag % Word...Word IDENTIFY 'TagDD' (DD = settings for IND 1, IND 2)

Example: 245 $a Speaking in Public
$c by Carl H. Weaver. New York, American Book Company, 1966.

FIX: 245% New...1966 IDENTIFY '2600b̸'
260% York, COPY '$b'
260% Company, COPY '$c'

```
Result:   245 $a Speaking in Public
              $c by Carl H. Weaver.
          260 $a New York,
              $b American Book Company,
              $c 1966.
```

Note that IDENTIFY automatically inserts $a in front of the data string (as well as putting a field terminator after 'Weaver.').

INDICATORS. The FIX expressions developed thus far all pertain to data strings, tags and subfield delimiters. The system will also allow for correcting identifiers, namely indicators and field tags. Indicators can be corrected by using Tag % IND 1 or Tag % IND 2 as location specifiers. Example:

```
100% IND 1 COPY '3'
600% IND 2 COPY '0'
```

In this case, COPY has the effect of DELETE + COPY because the 'Literal String' is set directly into the indicator, destroying what was there previously. DELETE alone can have no meaning, since it is equivalent to COPY 'b̸'.

FIXED FIELD. Fixed field tag 008 is handled in this system by using the COPY 'Literal String' function, and using the fixed field position as word locators. Examples:

```
008/18...21 COPY 'abcb̸'
008/35...37 COPY 'fre'
```

COPY here has the force of DELETE+COPY since the 'Literal String' will be set directly into the location thereby destroying what was there previously. Since the field positions for 008 may prove difficult to remember, FIX will allow 008 subfield mnemonics to be used (see CON Fig. 19). Thus the above could be expressed as:

```
008/ILLUS COPY 'abcb̸'
008/LANG  COPY 'fre'
```

The first form is still useful for setting strings longer than one subfield. Example:

```
008/06...14 COPY 'q19501959'
```

instead of

```
008/DTYPE COPY 'q'
008/DATE1 COPY '1050'
008/DATE2 COPY '1959'
```

SYSTEM SUMMARY. In summary then, the system consists of expressions in the form Location 1 - Operator - Location 2. Permissible operators are COPY, DELETE, IDENTIFY. Location 1 formats are: Tag-Word; Tag-Word...Word; Tag-Ind 1; Tag-Ind 2; Tag-Null (%%). Location 2 formats are : Tag-Word; Tag-Word...Word; Tag-Null (%%); 'Literal String'.

V. AUTOMATIC FIELD RECOGNITION (AFR)

The intent of AFR algorithms should be to recognize only statistically significant elements within the file, even if this policy results in erroneous identifications in some cases. The algorithms should aim to absorb 85-90% of the clerical and intellectual labor of file conversion. This will leave a residuum of exception cases and rare occurrences which can be handled manually by proofreading and correction in a post-edit cycle.

Given this probabilistic bias, algorithm design is based on three sets of parameters: 1) bibliographic format (AA Cataloging Rules), 2) machine format (MARC II), and 3) statistical distributions of patterns. The AA Rules define the traditional cataloging practices which control the punctuation, spacing, position and vocabulary patterns of any bibliographic element. MARC II specifies 1) which data items are to be identified and 2) the mode of identification (field tag, subfield delimiter, indicator or fixed code). Finally - and most important - analysis of a random catalog sample will determine the statistically significant bibliographic items in the file and will provide measures of incidence and reliability for recognition strategies.

With these three sets of parameters, a primary recognition strategy can be developed. This strategy may be expressed by flow chart, schematic, or prose description so long as it is sufficiently procedural to be programmed. Prior to actual programming, the random sample is again utilized, this time to provide examples of various patterns. The AFR strategy is exercised against the examples and, if necessary, it is modified or refined to capture statistically significant variations of pattern or arrangement.

The steps of algorithm design can thus be summarized as:

a) Analyze bibliographic and computer formats
b) Collect preliminary statistics from random catalog sample
c) Develop preliminary recognition strategy
d) Select examples from sample
e) Exercise strategy against examples
f) Collect detailed statistics on strategy failures

g) Modify or enlarge strategy if statistically warranted

h) Repeat step (e) until failure rate is within tolerance

We have selected the collation field ("525 p. illus. 21 cm.") to illustrate the process of algorithm design. While the field is conceptually simple, it does require 3 MARC II subfield definitions, as well as 11 fixed code content identifications; we hope it will be sufficient to provide some intuitive notions of AFR.

Fig. 1 displays the three sets of parameters: MARC II, AA Rules, and statistical distributions for the collation field. The table contains analytic material useful for designing a preliminary field recognition procedure. The MARC II specifications require the collation field to be identified in terms of three component subfields (pagination, illustration, height). In addition eleven specific content words in the illustration subfield (illus., maps, ports. etc), must be analyzed and translated into fixed codes.

Bibliographic variations of the field are described in the *Anglo-American Cataloging Rules*, including possible abbreviations of the data in the illustration subfield. However, the AA Rules supply very few clues about the frequency of occurrence of the collation subfields or illustration descriptions. This information is derived from analyzing frequency distributions between frequent cases and rare events.

Statistical analysis indicates that some form of pagination ("p." or "v.") is present in 98% of the file, and that book size ("cm.") is present in the collation field 95% of the time. Thus, a preliminary strategy can be developed, using "p." or "v." and "cm." as initial and terminal field boundaries with a 95% reliability. Procedurally this can be expressed as: terminate the size subfield by searching for "cm."; terminate the pagination subfield by searching for "p." or "v."

By exercising this strategy on the set of examples below, it becomes clear that the "p." search will need some additional refinements, because of three exceptions:

Pattern 1: xi p., 272 p. Frequency: 2.5%

Pattern 2: 7 p. l., 403 p. Frequency: 10%

Pattern 3: xi, 500 p., 3 l. Frequency: 8%

CON Fig. 23: COLLATION FIELD

MARC II SUBFIELDS*	CATALOGING VARIATIONS ON CARDS°	% OF FILE W/ VARIATION[+]	% OF FILE W/ SUBFIELD[+]
PAGINATION OR VOLUME	paged works (525 p.)	88%	98%
	unpaged works (1 v.)	10%	
	multi-volume works (8 v. in 5)	--	
ILLUSTRATIVE MATTER	illus.	35%[1]	59%
	plates, pl.	17%	
	port, ports	15%	
	maps	10%	
	facsim., facisms., facs.	6%	
	plans	3%	
	forms	2%	
	charts	--	
	coats of arms	--	
	geneal. tables	--	
	music	--	
SIZE	centimeters (21 cm.)	94%	95%
	millimeters (10 mm.)	--	
	wide books (24 x 15 cm.)	1%	

*_MARC II Subscribers Guide_, pp. 35, 57.

°_AA Cataloging Rules_, Rule 142

[+] 789 entries from the Official Catalog of California State Library (See Cartwright & Shoffner _Catalogs in Book Form_, p. 1-4.)

---

[1] A catalog entry may contain more than one type (or, variation) of illustrative matter.

In pattern 1, "p." also denotes pages in Roman numerals; in pattern 2, "p." is also used in the abbreviation "p. l." for preliminary leaves; in pattern 3, "p." doesnot terminate the subfield. Statistical analysis of patterns 1 and 2 shows that pattern 1 is rare, while pattern 2 occurs frequently enough to be taken into account. Therefore, the search for "p." will be modified to include a secondary scan for the absence of "l." Pattern 3, where "l." and not "p." terminates the pagination subfield, is statistically inconclusive and can be deferred until more evidence is available.

We have provided for identification of the illustration subfield but not for analysis of the contents. This can be handled by a table look-up scheme, using the first two letters of the content words: il(lus), ma(ps), po(rt), ch(arts), fa(csim.), etc.

There is also the question of determining the start of the entire field, and this is dependent on entry type. For personal or corporate name entries, the collation field begins at the second paragraph indention in the body of the card. For "hanging indention" (title main entry) form cards, the problem is more difficult because collation is the last indention before the notes, tracings, etc. However, title main entries are only 2.5% of the file and, thus, are in the category of statistically rare events. Therefore, the strategy of searching for the start of the collation at the second indention is entirely justified.

The collation recognition algorithm can now be sketched in the following six simplified steps.

COLLATION RECOGNITION ALGORITHM - SCHEMATIC

DATA EXAMPLE	PROCEDURE
	1. Enter algorithm if card is not title main entry
525 p. illus. 21 cm.	2. Skip to second paragraph indention
525 p. illus. 21 cm.	3. Identify pagination subfield a. search for "p." not followed by "l.", "v.", or "l." in that order. b. delimit pagination subfield

(Cont. on next page)

COLLATION RECOGNITION ALGORITHM - SCHEMATIC (Cont.)

DATA EXAMPLE	PROCEDURE
525 p. illus. 21 cm.	4. Identify size subfield a. Search for "cm." b. Delimit subfield
525 p. illus. 21 cm. page illus size	5. If page subfield is not followed directly by size subfield a. Delimit illustration subfield b. Check for illustration codes
	6. Return

The final step in algorithm design is to search out cases for which the algorithm will fail. Presumably these will be infrequent occurrences which will be misidentified and corrected in the proofreading cycle. For instance, the following examples will fail because of multiple occurrences of "p.":

iii, 290 p., [4] p. (music) 19 cm.
xiii [1] p., 1 ℓ., 295 [1], xi, [1]p., 1ℓ. illus. 20 cm.

The above are very infrequent cases, occurring less than 1% of the time.

APPENDIX:

Templates showing MARC data elements
as they relate to CSL-PC input.

RANGE: 008 DDDDDD

MARCII FIELD NAME: DATE ENTERED ON FILE

MARCII FIELD RANK: SECONDARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 32

CHARACTERS NEEDED: Six - numeric.

FUNCTION: Indicates in YYMMDD format the date this record was entered on the machine file. The currency of the record can be inferred from this field.

PAGE IN CODING MANUAL: Not in coding manual

CODING SHEET LOCATION: Not on coding sheet

INPUT STREAM ENCODING: Not applicable

FORMATS INTERNALLY AS: Not applicable

DISPOSITION: INCLUDE. Set appropriate date from internal clock of computer used in YYMMDD format. Data is placed in positions 0-5.

DISCUSSION:

MARC will store date-entered-on-file data in this field for transmission of LC tapes. This data will be of use in processing center operation at weeding and update time.

For retrospectively converted records this field will contain date-entered-on-CSL-PC-file data. Local usage is thus kept compatible with MARC without wasting space.

RANGE:	008 A
MARCII FIELD NAME:	TYPE OF PUBLICATION DATE
MARCII FIELD RANK:	PRIMARY
MARC II MAIN AREA:	C. Control fields - fixed length data elements.
BASIC MARC II TAG:	008
SUBSC. GUIDE PAGE:	32
CHARACTERS NEEDED:	One - alphabetic.
FUNCTION:	One of six possible codes is placed in this field to indicate the action to be taken on the two, related fixed fields which follow this one in the MARC record.
PAGE IN CODING MANUAL:	$\boxed{b}$
CODING SHEET LOCATION:	Top left of coding sheet
INPUT STREAM ENCODING:	bc bm bn bq br b̸
FORMATS INTERNALLY AS:	c m n q r s
DISPOSITION:	INCLUDE. I-FIELD digrams shown above map directly into MARC fixed field position 6. Possible error check: some code must be present.
DISCUSSION:	This field is closely connected with the two DATE fields which follow it. The relation of the b codes to the data entered under DATE1 and DATE2 is that of operator to operand.

RANGE: 008 DDDD

MARCII FIELD NAME: DATE 1

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 32

CHARACTERS NEEDED: Four - numeric.

FUNCTION: This field contains the first of two possible four-digit numbers representing date information from a catalog card.

PAGE IN CODING MANUAL: $\boxed{b}$

CODING SHEET LOCATION: Top left of coding sheet

INPUT STREAM ENCODING: DDDD

FORMATS INTERNALLY AS: DDDD

DISPOSITION: INCLUDE. Four-digit number or four blanks from the head of the I-FIELD input stream set MARC fixed field positions 7-10.

DISCUSSION:

Date information is highly structured and is, therefore, a natural target for fixed field treatment and error-checking routines.

Data in this field receives no explicit coding, but is set by virtue of its position at the start of the I-FIELD area and by virtue of its format. DATE 1 is related to the b codes .

RANGE: 008 DDDD

MARCII FIELD NAME: DATE 2

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 33

CHARACTERS NEEDED: Four - numeric.

FUNCTION: This field contains the second of two possible four-digit numbers representing date information from a catalog card.

PAGE IN CODING MANUAL: $\boxed{b}$

CODING SHEET LOCATION: Top left of coding sheet

INPUT STREAM ENCODING: DDDD

FORMATS INTERNALLY AS: DDDD

DISPOSITION: **INCLUDE.** Four-digit number or four blanks from the head of the I-FIELD input stream set MARC fixed field positions 11-14.

DISCUSSION: Logical checks for consistency among the three date fields are a natural area for error checking. Such checking can be incorporated into either the conversion or the printout portion of the program.

CON

RANGE: 008 AAA

MARCII FIELD NAME: COUNTRY OF PUBLICATION CODE

MARCII FIELD RANK: TERTIARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 35

CHARACTERS NEEDED: Three - alphabetic.

FUNCTION: A three-character code indicating the country and state (or province) within which a work was published.

PAGE IN CODING MANUAL: Not in coding manual

CODING SHEET LOCATION: Not on coding sheet

INPUT STREAM ENCODING: Not applicable

FORMATS INTERNALLY AS: Not applicable

DISPOSITION: DEFER. Fill fifth fixed field (positions 15-17) with non-printing characters. Blanks have meaning in MARC fixed fields.

DISCUSSION: CSL-PC does not provide data for this MARC field because the table lookup required to code this field retrospectively imposes severe economic and manpower constraints on the system.

RANGE: 008 AAAA

MARCII FIELD NAME: ILLUSTRATION CODES

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 35

CHARACTERS NEEDED: Four - alphabetic.

FUNCTION: This field indicates the presence on the catalog card of up to four kinds of illustrative matter information. Illustrative matter includes non-verbal material of the following sorts: illustrations, maps, portraits, charts, plans, plates, music, facsimiles, coats of arms, genealogical tables, forms.

PAGE IN CODING MANUAL: Not in coding manual

CODING SHEET LOCATION: Not on coding sheet

INPUT STREAM ENCODING:	il	ma	po	ch	plan	plat	mu	fa	coa	ge	fo	b̸
FORMATS INTERNALLY AS:	a	b	c	d	e	f	g	h	i	j	k	b̸

DISPOSITION: INCLUDE. Set sixth fixed field positions 18-21 on the basis of a scan for the key words and word parts shown above, taken from tag 300 $b variable data. Blanks are default and fillers here.

DISCUSSION:

A-FIELD data following the ninth of ten slashes will set tag 300 $b making the scan which sets this fixed field dependent on a processing sequence that handles A-FIELD elements before I-FIELD.

Note that illustration codes must be entered in alphabetical order in order to be compatible with MARC which has established a heirarchy for such codes.

RANGE: 008 A

MARCII FIELD NAME: INTELLECTUAL LEVEL CODE

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 36

CHARACTERS NEEDED: One - alphabetic.

FUNCTION: This field will indicate one of several levels of 'reading difficulty' to which the material represented by the catalog card can be assigned.

PAGE IN CODING MANUAL: ia

CODING SHEET LOCATION: Bottom left of coding sheet

INPUT STREAM ENCODING: ia

FORMATS INTERNALLY AS: j

DISPOSITION: INCLUDE. I-FIELD code ia sets j in MARC seventh fixed field position 22. Default sets b̸ in this field.

DISCUSSION: This field has much potential for present use and later expansion in the CSL-PC system. Finer gradations of 'non-juvenile' are definitely indicated if this field is to justify its existence. Perhaps the fiction indicator could be coded here.

RANGE: 008 A

MARCII FIELD NAME: FORM OF REPRODUCTION CODE

MARCII FIELD RANK: SECONDARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 36

CHARACTERS NEEDED: One - alphabetic.

FUNCTION: Indicates via one of four codes, that the document represented by this work has been reproduced in other than a standard range of type faces. That is, the catalog card represents a micro or macro sized form of printing.

PAGE IN CODING MANUAL: $\boxed{g}$

CODING SHEET LOCATION: Bottom left of coding sheet

INPUT STREAM ENCODING: ga gb gc gd b̸

FORMATS INTERNALLY AS: a b c d b̸

DISPOSITION: INCLUDE. I-FIELD codes ga to gd set MARC codes a to d in eighth MARC fixed field position 23. Default is blank.

DISCUSSION: MARC does not provide for 'Books for the Blind'. This kind of indicator would be useful in the CSL-PC collection and this field is the logical one to contain such an indicator when it is added.

RANGE: 008 AAAA

MARCII FIELD NAME: FORM OF CONTENT CODES

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 36

CHARACTERS NEEDED: Four - alphabetic

FUNCTION: Frequently noted kinds of contents - used primarily for reference work - can be coded using four out of twelve codes available in this field.

PAGE IN CODING MANUAL: h

CODING SHEET LOCATION: Bottom left of coding sheet

INPUT STREAM ENCODING:	hb	hc	hi	ha	hd	he	hr	hs	hh	hp	ƀ
FORMATS INTERNALLY AS:	b	c	i	a	d	e	r	s	h	p	ƀ

DISPOSITION: INCLUDE. I-FIELD codes are set as shown above into MARC positions 24-27 as the ninth fixed field. Default is blank.

DISCUSSION:

This field is similar to, but should not be confused with, the illustration codes found in positions 18-21 of the MARC record. Unlike the latter field, content codes are explicitly tagged in I-FIELD.

Note that up to four out of a possible twelve kinds of contents can be coded in this field. The codes must be entered in the field in the order shown in order to remain compatible with MARC, because MARC has established these codes in heirarchical order.

RANGE: 008 A

MARCII FIELD NAME: GOVERNMENT PUBLICATION CODES

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 37

CHARACTERS NEEDED: One - alphabetic.

FUNCTION: Signals presence or absence on the catalog card of information indicating a work was published by a governmental body.

PAGE IN CODING MANUAL: k

CODING SHEET LOCATION: Middle of coding sheet

INPUT STREAM ENCODING:	ka	kb	kc	kd	ke	b̸
FORMATS INTERNALLY AS:	a	b	c	d	e	b̸

DISPOSITION: EXPAND. I-FIELD codes shown above set MARC position 28 in tenth fixed field. Default is set to blank.

DISCUSSION: CSL-PC has expanded this field from the binary form provided in MARC to the present alphabetic character. This expansion permits more detailed coding of the important area of government publications.

CON

RANGE: 008 B

MARCII FIELD NAME: CONFERENCE PUBLICATION INDICATOR

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 37

CHARACTERS NEEDED: One - binary.

FUNCTION: Signals presence or absence on the catalog card of information indicating that a work was published as the result of a conference or meeting.

PAGE IN CODING MANUAL: ma

CODING SHEET LOCATION: Middle of coding sheet

INPUT STREAM ENCODING: ma b̸

FORMATS INTERNALLY AS: 1 0

DISPOSITION: INCLUDE. I-FIELD code ma sets MARC fixed field number eleven equal to 1 in position 29. Default sets zero in this field.

DISCUSSION: This field is a likely candidate for the same kind of expansion that the preceding field (position 28) has received. The decision to expand will be premised on local needs.

RANGE: 008 B

MARCII FIELD NAME: FESTSCHRIFT INDICATOR

MARCII FIELD RANK: TERTIARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 37

CHARACTERS NEEDED: One - binary.

FUNCTION: Signals presence or absence of festschrift information on a catalog card. A festschrift is a volume of articles, essays, etc., contributed by many authors in honor of a colleague, usually published on the occasion of retirement, an important anniversary, or the like.

PAGE IN CODING MANUAL: Not in coding manual

CODING SHEET LOCATION: Not on coding sheet

INPUT STREAM ENCODING: Not applicable

FORMATS INTERNALLY AS: Not applicable

DISPOSITION: DEFER. Fill twelfth fixed field position 30 with a non-printing character; blanks have meaning in fixed fields of MARC.

DISCUSSION: Determining whether or not the bibliographic entity referenced by a catalog card is or is not a festschrift involves bibliographic and economic costs in excess of the proven value of this information in the CSL-PC system.

RANGE: 008 B

MARCII FIELD NAME: INDEX INDICATOR

MARCII FIELD RANK: SECONDARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 37

CHARACTERS NEEDED: One - binary.

FUNCTION: Signals that a work contains an index to its own contents or lacks same.

PAGE IN CODING MANUAL: Not in coding manual

CODING SHEET LOCATION: Not on coding sheet

INPUT STREAM ENCODING: Not applicable

FORMATS INTERNALLY AS: Not applicable

DISPOSITION: DEFER. Fill the thirteenth MARC fixed field position 31 with a non-printing character; blanks have meaning in fixed fields.

DISCUSSION: Determining whether or not a document contains an index to its own contents, requires that the document itself be consulted unless there is some indication on the catalog card that there is an index. In the latter case a 'contents' code would be set, not this field.

RANGE:	008 B
MARCII FIELD NAME:	MAIN ENTRY IN BODY OF ENTRY INDICATOR
MARCII FIELD RANK:	SECONDARY
MARC II MAIN AREA:	C. Control fields - fixed length data elements.
BASIC MARC II TAG:	008
SUBSC. GUIDE PAGE:	37
CHARACTERS NEEDED:	One - binary.
FUNCTION:	Signals presence or absence - in almost any form - of the same information in the body as in the main entry of the record.
PAGE IN CODING MANUAL:	na
CODING SHEET LOCATION:	Center of coding sheet
INPUT STREAM ENCODING:	na b̸
FORMATS INTERNALLY AS:	1 0
DISPOSITION:	INCLUDE. I-FIELD code na sets fourteenth fixed field in MARC position 32 equal to 1, else equal to 0.
DISCUSSION:	This element will prove useful in book catalog production and in experiments with printed outputs from tape files where the suppression of redundant data is desired.

RANGE: 008 B

MARCII FIELD NAME: FICTION INDICATOR

MARCII FIELD RANK: SECONDARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 38

CHARACTERS NEEDED: One - binary

FUNCTION: Signals that the work to which this record refers is fiction or is not fiction.

PAGE IN CODING MANUAL: i

CODING SHEET LOCATION: Bottom left of coding sheet

INPUT STREAM ENCODING: ib b̸

FORMATS INTERNALLY AS: 1 0

DISPOSITION: INCLUDE. I-FIELD code ib sets fifteenth MARC fixed field position 33 equal to 1. Default sets 0.

DISCUSSION: It may make sense to move this field into the intellectual level field and give it an alphabetic code there. It takes just as long to access it in the latter form as in this while saving an added tag.

RANGE: 008 A

MARCII FIELD NAME: BIOGRAPHY CODE

MARCII FIELD RANK: SECONDARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 38

CHARACTERS NEEDED: One - alphabetic.

FUNCTION: Indicates via a single character code one of several kinds of biographical works.

PAGE IN CODING MANUAL: i

CODING SHEET LOCATION: Bottom left of coding sheet

INPUT STREAM ENCODING: ic id ie b̸

FORMATS INTERNALLY AS: a b c b̸

DISPOSITION: INCLUDE. I-FIELD codes ic, id and ie set a, b and c respectively in the sixteenth MARC fixed field position 34. Default sets blank.

DISCUSSION:

RANGE: 008 AAA

MARCII FIELD NAME: LANGUAGE CODE

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 38

CHARACTERS NEEDED: Three - alphabetic.

FUNCTION: Indicates via a three-character alphabetic code - derived from internal evidence on the catalog card or from a table lookup - the language in which the work referenced by this record was printed.

PAGE IN CODING MANUAL: $\boxed{\text{sa}}$

CODING SHEET LOCATION: Center of coding sheet

INPUT STREAM ENCODING: saAAA ... b̸

FORMATS INTERNALLY AS: AAA ENG

DISPOSITION: INCLUDE. I-FIELD code sa followed by a three-character language code sets that three-character code into the seventeenth fixed field in MARC positions 35-37. Default sets ENG here.

DISCUSSION: While the data represented in this field is implicit on a catalog card, it needs to be made explicit for machine purposes.

Closely related to MARC tag 041, this field will always indicate the language of the document itself. 041 will indicate summaries and translation languages as applicable.

RANGE:	008 B
MARCII FIELD NAME:	MODIFIED RECORD INDICATOR
MARCII FIELD RANK:	TERTIARY
MARC II MAIN AREA:	C. Control fields - fixed length data elements.
BASIC MARC II TAG:	008
SUBSC. GUIDE PAGE:	38
CHARACTERS NEEDED:	One - binary.
FUNCTION:	Signals the presence or absence of non-standard symbols on the catalog card. The 'pi' sign is a non-standard symbol for most computer printout equipment.
PAGE IN CODING MANUAL:	na
CODING SHEET LOCATION:	Center of coding sheet
INPUT STREAM ENCODING:	na b̸
FORMATS INTERNALLY AS:	1 0
DISPOSITION:	INCLUDE. I-FIELD code na sets eighteenth MARC fixed field position 38 equal to 1; else equals 0.
DISCUSSION:	

RANGE: 008 A

MARCII FIELD NAME: CATALOGING SOURCE CODE

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: C. Control fields - fixed length data elements.

BASIC MARC II TAG: 008

SUBSC. GUIDE PAGE: 39

CHARACTERS NEEDED: One - alphabetic.

FUNCTION: Indicates one of several types of non-LC source cataloging for a record, or that LC was the source of the cataloging information in the default mode.

PAGE IN CODING MANUAL: c

CODING SHEET LOCATION: Center left of coding sheet

INPUT STREAM ENCODING: ea eb ec ed ee ef b̸

FORMATS INTERNALLY AS: a b c d e f b̸

DISPOSITION: INCLUDE. I-FIELD codes ea to ef set nineteenth MARC fixed field position 39 equal to a to f as shown. Default sets blank.

DISCUSSION: Inter-relating the original cataloger, the adaptor and the present holding library for many bibliographic records could prove a complex process. This field provides some information of this sort.

RANGE: 010 ƀƀ $a

MARCII FIELD NAME: LIBRARY OF CONGRESS CARD NUMBER

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 010

SUBSC. GUIDE PAGE: 43

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: LC card numbers uniquely identify each set of catalog cards printed by the Library of Congress Card Distribution Service.

PAGE IN CODING MANUAL: *x

CODING SHEET LOCATION: Bottom right of catalog card

INPUT STREAM ENCODING: *xVARIABLE DATA

FORMATS INTERNALLY AS: ƀƀ$aVARIABLE DATA

DISPOSITION: INCLUDE. B-FIELD tag *x sets MARC tag 010 and delimiter $a. Both indicators in this field are blank.

DISCUSSION: Libraries find this number useful for acquisitions and technical processing work. LC uses this number in a different way - which see in Subscriber's Guide p.30. Their usage makes the LC card number part of a control field under 001.

CSL-PC follows the Subscriber's Guide suggestion to store the number here; the data in this field should certainly be picked up in any retrospective conversion effort.

RANGE: 015 b̸b̸ $a

MARCII FIELD NAME: **NATIONAL BIBLIOGRAPHY NUMBER**

MARCII FIELD RANK: **PRIMARY**

MARC II MAIN AREA: **D. Variable fields.**

BASIC MARC II TAG: **015**

SUBSC. GUIDE PAGE: **43**

CHARACTERS NEEDED: **SCP + variable length.**

FUNCTION: **Several nations publish large bibliographies covering material of interest to them. One of these national bibliographies was the source of the catalog information - or part of it - used by LC to create this record.**

PAGE IN CODING MANUAL: ***e**

CODING SHEET LOCATION: **Center of catalog card**

INPUT STREAM ENCODING: ***eVARIABLE DATA(%VARIABLE DATA)**

FORMATS INTERNALLY AS: **b̸b̸$aVARIABLE DATA($aVARIABLE DATA)**

DISPOSITION: **INCLUDE. B-FIELD tag *e sets MARC tag 015 and delimiter $a. Both indicators in this field are set to blank. Possible sub-field code % sets additional delimiters $a.**

DISCUSSION: **As long as the information for this field does not require table lookup or sophisticated editing, it should be picked up in any retrospective conversion effort.**

RANGE: 020 b̸b̸ $a

MARCII FIELD NAME: STANDARD BOOK NUMBER

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 020

SUBSC. GUIDE PAGE: 43

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: This number is meant to provide a uniform control number for the British book publishing industry. Each title is to be uniquely identified by a nine-digit number.

PAGE IN CODING MANUAL: !a

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: !aVARIABLE DATA

FORMATS INTERNALLY AS: b̸b̸$aVARIABLE DATA

DISPOSITION: INCLUDE. B-FIELD tag !a sets MARC tag 020 and delimiter $a. Both indicators in this field are blank.

DISCUSSION: Where this number is available on catalog cards, it will be coded by CSL-PC in this field. Again, examination of the original book or other special effort to secure this data is not warranted at present levels of funding.

RANGE: 025 b̸b̸ $a

MARCII FIELD NAME: **OVERSEAS ACQUISITION NUMBER**

MARCII FIELD RANK: **SECONDARY**

MARC II MAIN AREA: **D. Variable fields.**

BASIC MARC II TAG: 025

SUBSC. GUIDE PAGE: 44

CHARACTERS NEEDED: SCP + **variable length.**

FUNCTION: **This number is assigned a work when it is acquired through the Library of Congress Overseas Acquisition Program.**

PAGE IN CODING MANUAL: *y

CODING SHEET LOCATION: **Center of catalog card**

INPUT STREAM ENCODING: ***yVARIABLE DATA(%VARIABLE DATA)**

FORMATS INTERNALLY AS: **b̸b̸$aVARIABLE DATA($aVARIABLE DATA)**

DISPOSITION: **INCLUDE.** **B-FIELD tag *y sets MARC tag 025 and delimiter $a. Both of the indicators in this field are blank. More than one instance of this field on a given card is handled by the sub-field delimiter % which sets additional $a as needed.**

DISCUSSION: **Comments appropriate to other book control numbers apply here: if the data is on the card, keep it and use it; otherwise omit it until funds are available to provide for its inclusion.**

RANGE: 040 b̸b̸ $a

MARCII FIELD NAME: CATALOGING SOURCE

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 040

SUBSC. GUIDE PAGE: 44

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Indicates that library that did the original cataloging which LC used to create its catalog card.

PAGE IN CODING MANUAL: !n

CODING SHEET LOCATION: Bottom of catalog card

INPUT STREAM ENCODING: !nVARIABLE DATA

FORMATS INTERNALLY AS: b̸b̸$aVARIABLE DATA

DISPOSITION: INCLUDE. B-FIELD tag !n sets MARC tag 040 and delimiter $a. The indicators are both set to blank. Possible error check: the nineteenth fixed field (cataloging source code) must contain the letter c which indicates that the work was done under Cooperative Cataloging.

DISCUSSION: The problem of inter-relating the various libraries that may have had a hand in the creation of a bibliographic record is potentially very complex. A first step in this direction is provided with this field.

RANGE: **041 Bb̸ $a $b**

MARCII FIELD NAME: **LANGUAGES**

MARCII FIELD RANK: **PRIMARY**

MARC II MAIN AREA: **D. Variable fields.**

BASIC MARC II TAG: **041**

SUBSC. GUIDE PAGE: 45-46

CHARACTERS NEEDED: **SCP + variable length.**

FUNCTION: **Three-character alphabetic codes for the various languages of the world will be used in this field to indicate translations, summaries, and language of the original.**

PAGE IN CODING MANUAL: sa ta

CODING SHEET LOCATION: Lower center of coding sheet

INPUT STREAM ENCODING:	**saAAA%VARIABLE DATA%**	**saVARIABLE DATA%ta**	**saVARIABLE DATA%**
FORMATS INTERNALLY AS:	**0b̸$aAAA$bVARIABLE DATA**	**1b̸$aVARIABLE DATA**	**0b̸$aVARIABLE DATA**

DISPOSITION: **INCLUDE. I-FIELD tag sa sets MARC tag 041 and delimiter $a. Sub-field delimiter % (first of two) sets $b (terminator if only one %). IND1 = 1 if I-FIELD ta is coded, else equals 0. IND2 is blank.**

This field is tied to fixed field number seventeen (language code) in that the default condition under sa sets the seventeenth fixed field equal to eng. Possible error check: VARIABLE DATA in this field must be in alphabetic groups divisible by three.

DISCUSSION: **Where language information can be readily obtained or deduced from an examination of the catalog card, it will be encoded for CSL-PC. Some redundancy of coding results from the use of two fields for language information, but as the purpose of the fields is different: one provides language on card; the other signals translations and summaries.**

RANGE: 050 Bb̸ $a $b

MARCII FIELD NAME: **LC CALL NUMBER**

MARCII FIELD RANK: **PRIMARY**

MARC II MAIN AREA: **D. Variable fields.**

BASIC MARC II TAG: **050**

SUBSC. GUIDE PAGE: **46**

CHARACTERS NEEDED: **SCP + variable length.**

FUNCTION: **The LC call number entered as data in this field does not necessarily reflect the actual sequence of symbols used in-house by LC. The number supplied on LC catalog cards for sale to the public are usually some shortened version of the full catalog call number which would include both a classification number and a book number.**

PAGE IN CODING MANUAL: ***s** **ca**

CODING SHEET LOCATION: **Bottom left of catalog card**

INPUT STREAM ENCODING: ***sVARIABLE DATA ...**

FORMATS INTERNALLY AS: **Bb̸$aVARIABLE DATA ...**

DISPOSITION: **INCLUDE. B-FIELD tag *s sets MARC tag 050 and delimiter $a. I-FIELD code ca sets IND1 = 1, else IND1 = 0. IND2 is set to blank.**

DISCUSSION:

Because of problems associated with the editing of book number within a call number, $b will not be set by CSL-PC. The complete call number - as found on the catalog card and delimited by *s - will be coded under $a. There may be more than one such call number.

Complete omission of the 050 field on a MARC tape will indicate that the work has been added to the LC Law Library. CSL-PC records entered in this field should contain some indication negating this meaning. This is done to insure compatibility with future programs issued by LC and based on the MARC tape format.

RANGE: 082 b̸b̸ $a

MARCII FIELD NAME: DEWEY DECIMAL CLASSIFICATION NUMBER

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 082

SUBSC. GUIDE PAGE: 48

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: The DDC number is somewhat like other classification numbers, but is made up solely of numbers (in its 'pure' form). The three-digit number preceding the decimal point indicates the main subject group to which a given document belongs. Subsequent numbers provide refinements of this basic subject role.

PAGE IN CODING MANUAL: *w

CODING SHEET LOCATION: Bottom center of catalog card

INPUT STREAM ENCODING: *wVARIABLE DATA(%VARIABLE DATA)

FORMATS INTERNALLY AS: b̸b̸$aVARIABLE DATA($aVARIABLE DATA)

DISPOSITION: INCLUDE. B-FIELD tag *w sets MARC tag 082 and delimiter $a. Both of the indicators in this field are set to blank. Possible multiple occurence of this field on a single card are handled via the sub-field delimiter % which sets additional $a as needed.

DISCUSSION: It should be noted that clues for the setting of I-FIELD codes ia and ib will be found in this field and thus affect the setting of the seventh (intellectual level code) and fifteenth (fiction indicator) fixed fields in the MARC record.

Alphabetic data may appear in the field setting tag 082. It may prove desireable to delete such characters if an error check based on numeric data only is wanted.

RANGE: 083 Db̸ $a

MARCII FIELD NAME: LOCAL CLASSIFICATION NUMBER

MARCII FIELD RANK: SECONDARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 083

SUBSC. GUIDE PAGE: Not in 1968 Subscriber's Guide.

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Multiple and various subject classification schemes needed by local libraries in order to classify the full range of their collections, can be accommodated by this field.

PAGE IN CODING MANUAL: !l !m !v

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: !lVARIABLE DATA !mVARIABLE DATA !vVARIABLE DATA

FORMATS INTERNALLY AS: 0b̸$aVARIABLE DATA 2b̸$aVARIABLE DATA 1b̸$aVARIABLE DATA

DISPOSITION: INCLUDE. B-FIELD code !l sets tag 083, delimiter $a and IND1 = 0. B-FIELD code !m sets tag 083, delimiter $a and IND1 = 2. B-FIELD code !v sets tag 083, delimiter $a and IND1 = 1. IND2 is set to blank.

DISCUSSION: CSL-PC has created this tag for the use of local libraries that require more than one subject classification scheme for the cataloging of their collections.

RANGE: 090 b̸b̸ $a $c $e $f

MARCII FIELD NAME: HOLDINGS

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 090

SUBSC. GUIDE PAGE: Not in 1968 Subscriber's Guide.

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: This field provides inventory control pointers for monographs down through the branch level in libraries of the CSL-PC system.

PAGE IN CODING MANUAL: / LOCAL CALL NUMBER w *u

CODING SHEET LOCATION: Top left, bottom of catalog card and bottom of coding sheet.

INPUT STREAM ENCODING: /VARIABLE DATA ...

FORMATS INTERNALLY AS: b̸b̸...$cVARIABLE DATA ...

DISPOSITION: INCLUDE. First of ten slashes in A-FIELD sets first 090 tag and delimiter $c. B-FIELD code *u sets second and subsequent 090 tags and delimiter $c. I-FIELD codes wa, wb, wc ... are followed by a seven-digit number which follows $a set by w codes. Both indicators in this field are blank.

DISCUSSION: This field has been defined for CSL-PC use in the location and control of monographs within the system. Local call number is combined with various location codes to provide a single pointer for each work.

RANGE: 100 DB $a $b $c $d $e $k $q $t

MARCII FIELD NAME: MAIN ENTRY - PERSONAL NAME

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 100

SUBSC. GUIDE PAGE: 48-50

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: The main entry most often refers to the catalog heading by which a bibliographic entity is to be uniformly identified and cited. There are several types of such main entries; this field deals with the type called personal name.

PAGE IN CODING MANUAL: / AUTHOR MAIN ENTRY: PERSONAL AUTHOR ua ub

CODING SHEET LOCATION: Top left of catalog card

INPUT STREAM ENCODING: /VARIABLE DATA ...

FORMATS INTERNALLY AS: DB$aVARIABLE DATA ...

DISPOSITION: INCLUDE. Second of ten slashes in A-FIELD sets high order digit in MARC tag (1xx). Tag 100 itself is set by I-FIELD ua digrams ranging from pa to pd. IND1 = 2 if pb, IND1 = 0 if pc, IND1 = 3 if pd, IND1 = 1 by default (no ua coded). I-FIELD code ub sets IND2 = 1, else IND2 = 0.

DISCUSSION: Provision of a code %x by CSL-PC allows the setting of $q - a non-MARC subfield delimiter - under tag 100 to handle pseudonyms and words indicating pseudonymity.

MAIN ENTRY - PERSONAL NAME

100 DB $a $b $c $d $e $k $q $t

	CSL-PC CODE	MARC II CODE
TYPE OF MAIN ENTRY	ua box	IND1
Forename	uapc	0
Single surname	DEFAULT	1
Multiple surname	uapb	2
Family name	uapd	3
MAIN ENTRY ALSO SUBJECT	ub box	IND2
Main entry is subject	ub	1
Main entry is not subject	DEFAULT	0
DATA ELEMENT NAMES	subfield	DELS
Personal name	/	$a
Numeration	%b	$b
Identifier	%c	$c
Dates	%d	$d
Relator	%e	$e
Miscellaneous	%g	$g
Pseudonym	%x	$q
Form subheading	#	$k
Title of book	$	$t

DISCUSSION: All code conversions possible under MARC tag 100 can be derived from this table which demonstrates the one-to-one map involved for each code. Note that both indicators can be set by default.

CSL-PC adds %x to delimit pseudonym under tag 100. This usage maps to $q which is also a CSL-PC selected delimiter. %g shown in the list above does not now appear in tag 100 coding.

Data in this field set several related delimiters under tags 400, 600, 700, and 800.

RANGE: **110 DB $a $b $e $k $t**

MARCII FIELD NAME: **MAIN ENTRY - CORPORATE NAME**

MARCII FIELD RANK: **PRIMARY**

MARC II MAIN AREA: **D. Variable fields.**

BASIC MARC II TAG: **110**

SUBSC. GUIDE PAGE: **51-52**

CHARACTERS NEEDED: **SCP + variable length.**

FUNCTION: **This field handles a type of main entry that is characterized by more or less complex heirarchies of elements: governments and their agencies, business firms, societies, townships, religious bodies, etc.**

PAGE IN CODING MANUAL: **/ AUTHOR MAIN ENTRY: CORPORATE NAMES** **ua** **ub**

CODING SHEET LOCATION: **Top left of catalog card**

INPUT STREAM ENCODING: **/VARIABLE DATA ...**

FORMATS INTERNALLY AS: **DB$aVARIABLE DATA ...**

DISPOSITION: **INCLUDE. Second of ten slashes in A-FIELD sets high order digit in MARC tag (1xx). Tag 100 itself is set by I-FIELD ua digrams ranging from ca to cc. IND1 = 2 if ca, IND1 = 1 if cb, and IND1 = 0 if cc is coded as the ua digram. IND2 is set as under tag 100.**

DISCUSSION: **Data in this field is obviously related to MARC fields 410 and 710. CSL-PC imitates MARC usage by maintaining parallel sub-field coding wherever possible.**

MAIN ENTRY - CORPORATE NAME

110 DB $a $b $e $k $t

	CSL-PC CODE		MARC II CODE
TYPE OF MAIN ENTRY	ua box		IND1
Place or Place + Name	uaca		2
Name (Direct Order)	uacb		1
Surname (Inverted)	uacc		0
MAIN ENTRY ALSO SUBJECT	ub box		IND2
Main entry is subject	ub		1
Main entry is not subject	DEFAULT		0
DATA ELEMENT NAMES	subfield		DELS
Corporate name	/		$a
Sub-unit	%b		$b
Relator	%e		$e
Form Subheading	#		$k
Title of book	$		$t

DISCUSSION: All code conversions possible under MARC tag 110 can be derived from the table as shown. Indicator two can be set by default.

Data in this field set several related delimiters under tags 410, 610, 710 and 810.

RANGE:	**111 DB $a $b $c $d $e $g $k $t**
MARCII FIELD NAME:	**MAIN ENTRY - CORPORATE NAME - CONFERENCE OR MEETING**
MARCII FIELD RANK:	**PRIMARY**
MARC II MAIN AREA:	**D. Variable fields.**
BASIC MARC II TAG:	**111**
SUBSC. GUIDE PAGE:	**52-53**
CHARACTERS NEEDED:	**SCP + variable length.**
FUNCTION:	**Conferences and meetings of corporate bodies are considered major subdivisions of tag 110, but are given a separate main entry treatment as shown.**
PAGE IN CODING MANUAL:	**/ AUTHOR MAIN ENTRY: CONFERENCE OR MEETING ua ub**
CODING SHEET LOCATION:	**Top left of catalog card**
INPUT STREAM ENCODING:	**/VARIABLE DATA ...**
FORMATS INTERNALLY AS:	**DB$aVARIABLE DATA ...**
DISPOSITION:	**INCLUDE. Second of ten slashes in A-FIELD sets high order digit in MARC tag (lxx). Tag 111 itself is set by ua I-FIELD digrams in the range fa to fc. IND1 = 2 if fa, IND1 = 1 if fb, IND1 = 0 if fc is coded. IND2 is set as under tag 100.**
DISCUSSION:	**Data in this field is related to tag 411 and 711 which follow later.**

MAIN ENTRY - CONFERENCE OR MEETING

111 DB $a $b $c $d $e $g $k $t

	CSL-PC CODE	MARC II CODE
TYPE OF MAIN ENTRY	ua box	IND1
Place or Place + Name	uafa	2
Name (Direct Order)	uafb	1
Surname (Inverted)	uafc	0
MAIN ENTRY ALSO SUBJECT	ub box	IND2
Main entry is subject	ub	1
Main entry is not subject	DEFAULT	0
DATA ELEMENT NAMES	subfield	IND2
Conference or meeting	/	$a
Number of conference	%b	$b
Place	%c	$c
Date	%d	$d
Sub-unit	%e	$e
Miscellaneous	%g	$g
Form subheading	#	$k
Title of book	$	$t

DISCUSSION: All code conversions possible for MARC tag 111 can be derived from the table given above. The second indicator can be set by default.

Data in this field set several related delimiters under tags 411, 611, 711 and 811.

RANGE:	130 BB $a $t
MARCII FIELD NAME:	MAIN ENTRY - UNIFORM TITLE HEADING
MARCII FIELD RANK:	PRIMARY
MARC II MAIN AREA:	D. Variable fields.
BASIC MARC II TAG:	130
SUBSC. GUIDE PAGE:	53-54
CHARACTERS NEEDED:	SCP + variable length.
FUNCTION:	The uniform title type of main entry is meant to gather together in one catalog location, cards which deal with a single bibliographic entity assigned a variety of main entries. That is, this field is a standardized title main entry for items not already having an author type of main entry heading.
PAGE IN CODING MANUAL:	/ UNIFORM TITLE MAIN ENTRY ua ub
CODING SHEET LOCATION:	Top left of catalog card
INPUT STREAM ENCODING:	/VARIABLE DATA($VARIABLE DATA)
FORMATS INTERNALLY AS:	BB$aVARIABLE DATA($tVARIABLE DATA)
DISPOSITION:	INCLUDE. Second of ten slashes in A-FIELD sets high order digit in MARC (1xx). Tag 130 itself is set by I-FIELD codes uaua or uasa. IND1 = 1 if uasa, else equals 0. IND2 is set as under tag 100.
DISCUSSION:	MARC does not provide an IND1 for this field, but CSL-PC has included a binary indicator as shown with the meaning 'main entry is or is not a serial (periodical) title'.

MAIN ENTRY - UNIFORM TITLE HEADING

130 BB $a $t

	CSL-PC CODE		MARC II CODE
TYPE OF MAIN ENTRY	ua box		IND1
Uniform title	uaua		0
Periodical title	uasa		1
MAIN ENTRY ALSO SUBJECT	ub box		IND2
Main entry is subject	ub		1
Main entry is not subject	DEFAULT		0
DATA ELEMENT NAMES	subfield		DELS
Uniform title	/		$a
Title of periodical	$		$t

DISCUSSION: All code conversions for this field can be derived from the table above. Note that IND1 is a CSL-PC defined field having no default setting.

Data in this field set several related delimiters and indicators under tags 630 and 730.

RANGE: 240 Bb̸ $a

MARCII FIELD NAME: INTERPOSED UNIFORM TITLE

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 240

SUBSC. GUIDE PAGE: 54

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Another kind of 'standard title', this field allows cards which might be dispersed in the catalog - due to variations in the title of a given work - to be gathered together via the interposition of a 'uniform title' after the main entry heading and before the title statement. This field should not be confused with tag 130 which is completely different in meaning.

PAGE IN CODING MANUAL: | %h | INTERPOSED UNIFORM TITLE |

CODING SHEET LOCATION: Top left of catalog card

INPUT STREAM ENCODING: %hVARIABLE DATA

FORMATS INTERNALLY AS: Bb̸$aVARIABLE DATA

DISPOSITION: INCLUDE. A-FIELD tag %h between second and third slash sets MARC tag 240 and delimiter $a. Both indicators are set to blank.

DISCUSSION: CSL-PC does not provide a code to set the MARC IND1 for this field. MARC gives IND1 the meaning: 'Uniform title is printed on the LC card or is not so printed'.

RANGE: 241 ƀƀ $a

MARCII FIELD NAME: ROMANIZED TITLE

MARCII FIELD RANK: SECONDARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 241

SUBSC. GUIDE PAGE: 55

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Romanization of a title implies that some conversion has been made between characters in a 'target alphabet' such that they now appear in 'Roman' form. The letters of the English alphabet can be taken as examples of Roman letters.

PAGE IN CODING MANUAL: *n !q

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: *nVARIABLE DATA !qVARIABLE DATA

FORMATS INTERNALLY AS: ƀƀ$aVARIABLE DATA ƀƀ$aVARIABLE DATA

DISPOSITION: INCLUDE. B-FIELD code *n or !q sets MARC tag 241 and delimiter $a. Both indicators in this field are blank.

DISCUSSION: MARC has not yet implemented tag 241. CSL-PC provides codes for romanized title and these will be placed under this tag as shown.

RANGE: 245 Bƀ $a $b $c

MARCII FIELD NAME: **TITLE STATEMENT**

MARCII FIELD RANK: **PRIMARY**

MARC II MAIN AREA: **D. Variable fields.**

BASIC MARC II TAG: **245**

SUBSC. GUIDE PAGE: **55**

CHARACTERS NEEDED: **SCP + variable length.**

FUNCTION: **Title - in the broad sense - is the name of a work, including any alternative title, subtitle, or other associated descriptive matter preceding the author, edition, or imprint statement on the title page.**

PAGE IN CODING MANUAL: **/ SHORT TITLE / TITLE ELABORATION ... qa ra**

CODING SHEET LOCATION: **Top left of catalog card**

INPUT STREAM ENCODING: **/VARIABLE DATA(/VARIABLE DATA)(%VARIABLE DATA)**

FORMATS INTERNALLY AS: **Bƀ$aVARIABLE DATA($bVARIABLE DATA)($cVARIABLE DATA)**

DISPOSITION: **INCLUDE. Third of ten slashes in A-FIELD sets MARC tag 245 and delimiter $a. Fourth of ten slashes in A-FIELD sets $b only if data follow the slash. A-FIELD code % - after fourth slash - sets $c. I-FIELD code qa sets IND1 = 1, else equals 0. I-FIELD code ra sets IND2 = 0, else equals 1.**

DISCUSSION: **When I-FIELD code qa is present and IND1 = 1 under tag 245, the necessary and sufficient conditions for creating a tag 740 field have been met. Refer to that field for more detail.**

RANGE: 250 ƀƀ $a $b

MARCII FIELD NAME: EDITION STATEMENT

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 250

SUBSC. GUIDE PAGE: 56

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: An edition is defined as all physical copies of a given setting of type.

PAGE IN CODING MANUAL: / TITLE ELABORATION # EDITION STATEMENT

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: #VARIABLE DATA(%VARIABLE DATA)

FORMATS INTERNALLY AS: ƀƀ$aVARIABLE DATA($bVARIABLE DATA)

DISPOSITION: INCLUDE. Scan between fourth and fifth of ten slashes in A-FIELD to set tag 250 and delimiter $a. Possible sub-field tagged with % sets $b. Both indicators are set to blank.

DISCUSSION: The use of % as a sub-field delimiter with several meanings within the A-FIELD area should be looked at carefully during programming.

RANGE:	300 b̸b̸ $a $b $c
MARCII FIELD NAME:	COLLATION
MARCII FIELD RANK:	PRIMARY
MARC II MAIN AREA:	D. Variable fields.
BASIC MARC II TAG:	300
SUBSC. GUIDE PAGE:	57
CHARACTERS NEEDED:	SCP + variable length.
FUNCTION:	Described in field are such physical characteristics as the number of pages, size, illustrative material, etc.
PAGE IN CODING MANUAL:	COLLATION: / PAGINATION / ILLUSTRATIVE MATTER / SIZE
CODING SHEET LOCATION:	Center of catalog card
INPUT STREAM ENCODING:	(/VARIABLE DATA)(/VARIABLE DATA)(/VARIABLE DATA)
FORMATS INTERNALLY AS:	b̸b̸$aVARIABLE DATA($bVARIABLE DATA)($cVARIABLE DATA)
DISPOSITION:	INCLUDE. Eighth of ten slashes in A-FIELD sets MARC tag 300 and delimiter $a. Ninth of ten slashes in A-FIELD sets $b. Tenth slash sets $c. Any combination of these three slashes may appear in the CSL-PC input stream. Both indicators under tag 300 are set to blank.
DISCUSSION:	Data coded under the ninth A-FIELD slash sets $b under tag 300 and is related to the data found in fixed field positions 18-21.

RANGE:	350 b̸b̸ $a
MARCII FIELD NAME:	BIBLIOGRAPHIC PRICE
MARCII FIELD RANK:	SECONDARY
MARC II MAIN AREA:	D. Variable fields.
BASIC MARC II TAG:	350
SUBSC. GUIDE PAGE:	57
CHARACTERS NEEDED:	SCP + variable length.
FUNCTION:	This field contains the list price of a work at the time it was published. The price is given in the currency of the country of publication.
PAGE IN CODING MANUAL:	$ BIBLIOGRAPHIC PRICE
CODING SHEET LOCATION:	Center of catalog card
INPUT STREAM ENCODING:	$VARIABLE DATA($VARIABLE DATA) ...
FORMATS INTERNALLY AS:	b̸b̸$aVARIABLE DATA($aVARIABLE DATA) ...
DISPOSITION:	INCLUDE. B-FIELD tag $ sets MARC tag 350 and delimiter $a. Both indicators in this field are blank.
DISCUSSION:	Price information can be easily coded only if it is available at conversion time. Any attempt to gather such information during that time would be prohibitively expensive, especially since the original list price has a very short 'half life' for acquisitions purposes.

RANGE: 400 DB $a $b $c $d $e $k $t $v

MARCII FIELD NAME: SERIES NOTE - PERSONAL NAME/TITLE (TRACED)

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 400

SUBSC. GUIDE PAGE: 58

CHARACTERS NEEDED: SCP + variable

FUNCTION: Series notes give information that a work is part of a series of publications issued under a collective title. This field is used to generate added entry headings in the same form as represented by the data in this field. Tag 400 deals specifically with the 'personal author' type of entry.

PAGE IN CODING MANUAL: *a ja

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: *aVARIABLE DATA ...

FORMATS INTERNALLY AS: DB$aVARIABLE DATA ...

DISPOSITION: INCLUDE. B-FIELD tag *a sets high order digit in MARC tag (4xx). Tag 400 itself is set by I-FIELD ja digrams ranging from pa to ph. IND1 is set as under tag 100. IND2 is set to 1 if ja digram codes are within the range pe-ph, else IND2 = 0.

DISCUSSION: The full range of delimiters applicable to tag 100 could conceivably be used under tag 400. However, not all delimiters or indicators are likely to appear with the same frequency.

The data in this field is obviously related to that under tag 100, 600 and 700. CSL-PC will endeavor to maintain parallel usage of tags and delimiter for such related data elements wherever possible.

RANGE: 410 DB $a $b $e $k $t $v

MARCII FIELD NAME: SERIES NOTE - CORPORATE NAME/TITLE (TRACED)

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 410

SUBSC. GUIDE PAGE: 58-59

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Series notes give information that a work is part of group of publications issued under a collective title. This field is used to generate added entry headings in the same corporate author form as represented by the data.

PAGE IN CODING MANUAL: *a ja

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: *aVARIABLE DATA ...

FORMATS INTERNALLY AS: DB$aVARIABLE DATA ...

DISPOSITION: INCLUDE. B-FIELD tag *a sets high order digit in MARC tag (4xx). Tag 410 itself is set by I-FIELD ja digrams ranging from ca to cf. IND1 is set as under tag 110. IND2 is set to 1 if ja digram is within range cd-cf, else IND2 = 0.

DISCUSSION: The same subfield delimiters used by tag 110 are employed here with the added delimiter $v for 'Volume or number (after the title)'.

RANGE:	**411 DB $a $b $c $d $e $g $k $t $v**
MARCII FIELD NAME:	**SERIES NOTE - CONFERENCE OR MEETING/TITLE**
MARCII FIELD RANK:	**PRIMARY**
MARC II MAIN AREA:	**D. Variable fields.**
BASIC MARC II TAG:	**411**
SUBSC. GUIDE PAGE:	**59**
CHARACTERS NEEDED:	**SCP + variable length.**
FUNCTION:	**Series added entries of the conference or meeting type are dealt with under this field.**
PAGE IN CODING MANUAL:	***a** **ja**
CODING SHEET LOCATION:	**Center of catalog card**
INPUT STREAM ENCODING:	***aVARIABLE DATA ...**
FORMATS INTERNALLY AS:	**DB$aVARIABLE DATA ...**
DISPOSITION:	**INCLUDE. B-FIELD tag *a sets high order digit in MARC tag (4xx). Tag 411 itself is set by I-FIELD ja digrams ranging from fa to ff. IND1 is set as under tag 111. IND2 = 1 if ja digram codes are within range fd-ff, else IND2 = 0.**
DISCUSSION:	**Data and tags for this field are purposely similar to those found under tags 111 and 811. CSL-PC imitates MARC in the use of similar codes for related data elements wherever possible.**

RANGE: 440 ƀƀ $a $v

MARCII FIELD NAME: SERIES NOTE - TITLE (TRACED)

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 440

SUBSC. GUIDE PAGE: 60

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Series entries having only the title of the series indicated - with or without numbering - are dealt with in a manner similar to the other 4xx tags under tag 440.

PAGE IN CODING MANUAL: *b

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: *bVARIABLE DATA(%nVARIABLE DATA)

FORMATS INTERNALLY AS: ƀƀ$aVARIABLE DATA($vVARIABLE DATA)

DISPOSITION: INCLUDE. B-FIELD tag *b sets MARC tag 440 and delimiter $a. Both indicators are set to blank. The optional subfield delimiter %n maps directly to $v as shown.

DISCUSSION: A series note that indicates title of series only is closely related in meaning and disposition to tag 240. There is no I-FIELD ja code associated with this field.

RANGE: 490 B̸ $a

MARCII FIELD NAME: SERIES NOTE - UNTRACED OR TRACED DIFFERENTLY

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 490

SUBSC. GUIDE PAGE: 60-61

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Either no added entry at all is to be generated from this series note or a different form of the note will be used as an added entry when this field is used.

PAGE IN CODING MANUAL: *c *d

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: *cVARIABLE DATA *dVARIABLE DATA

FORMATS INTERNALLY AS: 0b̸$aVARIABLE DATA 1b̸$aVARIABLE DATA

DISPOSITION: INCLUDE. B-FIELD code *c sets tag 490, delimiter $a and IND1 = 0 in the MARC record for this field. B-FIELD code *d sets the same tags as does *c except that IND1 = 1. IND2 is set to blank.

DISCUSSION: The presence of IND1 = 1 implies that a tag 800 field is to be constructed out of the variable data found under $a of tag 490. An error checking routine is possible here.

RANGE: 500 ƀƀ $a

MARCII FIELD NAME: GENERAL NOTE

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 500

SUBSC. GUIDE PAGE: 61

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Notes of a general character - not specifically named and delimited under some other tag - are placed in this field.

PAGE IN CODING MANUAL: *k

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: *kVARIABLE DATA

FORMATS INTERNALLY AS: ƀƀ$aVARIABLE DATA

DISPOSITION: INCLUDE. B-FIELD tag *k sets tag 500 and delimiter $a. Both indicators are set to blank.

DISCUSSION: Multiple occurences of general notes within a given bibliographic entity should receive a separate $a delimiter for each such occurence. This usage separates the different notes without proliferating tags.

RANGE: 501 b̸b̸ $a

MARCII FIELD NAME: "BOUND WITH" NOTE

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 501

SUBSC. GUIDE PAGE: 61

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Two or more bibliographic entities sharing the same physical package are identified by the kind of note treated here.

PAGE IN CODING MANUAL: *j

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: *jVARIABLE DATA

FORMATS INTERNALLY AS: b̸b̸$aVARIABLE DATA

DISPOSITION: INCLUDE. B-FIELD code *j sets tag 501 and delimiter $a. Both indicators are blank.

DISCUSSION: At present this is a straightforward field. Should later usage indicate that separate MARC records are needed for each logical bibliographic unit, some device for locating such units when bound together will be keyed from this field.

RANGE: 502 b̸b̸ $a

MARCII FIELD NAME: **DISSERTATION NOTE**

MARCII FIELD RANK: **PRIMARY**

MARC II MAIN AREA: **D. Variable fields.**

BASIC MARC II TAG: 502

SUBSC. GUIDE PAGE: 61

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: **The fact that a catalog card entry is also a thesis or a doctoral dissertation - or was published as either of the latter - is recorded in this note field.**

PAGE IN CODING MANUAL: ***h**

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: ***hVARIABLE DATA**

FORMATS INTERNALLY AS: **b̸b̸$aVARIABLE DATA**

DISPOSITION: **INCLUDE.** **B-FIELD code *h sets tag 502 and delimiter $a. Both of the indicators in this field are set to blank.**

DISCUSSION: **This field is structured so simply that the possibility of replacing it with a fixed field indicator suggests itself. Variable length data related to such an indicator could be accessed via a 500 tag subfield delimiter.**

RANGE: 503 ƀƀ $a

MARCII FIELD NAME: BIBLIOGRAPHIC HISTORY NOTE

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 503

SUBSC. GUIDE PAGE: 61

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Any note relating to other issues, titles or history of publication that has a bearing on the work in hand, will be entered in this field.

PAGE IN CODING MANUAL: *p

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: *pVARIABLE DATA

FORMATS INTERNALLY AS: ƀƀ$aVARIABLE DATA

DISPOSITION: **INCLUDE.** B-FIELD code *p sets tag 503 and delimiter $a. Both of the indicators in this field are blank.

DISCUSSION: Because the notes in this field take several forms, further delimiting may prove useful in future.

RANGE: 504 b̸b̸ $a

MARCII FIELD NAME: **BIBLIOGRAPHY NOTE**

MARCII FIELD RANK: **PRIMARY**

MARC II MAIN AREA: **D. Variable fields.**

BASIC MARC II TAG: 504

SUBSC. GUIDE PAGE: 61

CHARACTERS NEEDED: **SCP + variable length.**

FUNCTION: **This field applies to any note indicating that a list of materials related to the work being described by the catalog card, has been included in the work.**

PAGE IN CODING MANUAL: ***f**

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: ***fVARIABLE DATA**

FORMATS INTERNALLY AS: **b̸b̸$aVARIABLE DATA**

DISPOSITION: **INCLUDE. B-FIELD code *f sets tag 504 and delimiter $a. Both indicators are set to blank.**

DISCUSSION: Notes found under this field can contain important information connecting two or more works in some way. Such connections may require extended coding.

RANGE: 505 Db̸ $a

MARCII FIELD NAME: CONTENTS NOTE (FORMATTED)

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 505

SUBSC. GUIDE PAGE: 61

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: A formatted list of sub-elements appearing within a work is called a contents note and receives the treatment detailed here.

PAGE IN CODING MANUAL: *i

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: *iVARIABLE DATA   *iPartial ...   *iContents ...

FORMATS INTERNALLY AS: 1b̸$aVARIABLE DATA   2b̸$aPartial ...   0b̸$aContents ...

DISPOSITION: INCLUDE. B-FIELD tag *i sets MARC tag 505 and delimiter $a. IND1 is set to 2 if *i is followed by the word 'Partial'; if by the word 'Contents' IND1 = 0; and if by any other word or group of characters, IND1 = 1. IND2 is set to blank.

DISCUSSION: Contrary to MARC usage, CSL-PC will carry the words 'Contents' and 'Partial contents' after the sub-field delimiter. This is done because these words serve both as headings for book catalog formatting of such notes and as further discriminators under *i for setting IND1.

RANGE:	506 ƀƀ $a
MARCII FIELD NAME:	"LIMITED USE" NOTE
MARCII FIELD RANK:	SECONDARY
MARC II MAIN AREA:	D. Variable fields
BASIC MARC II TAG:	506
SUBSC. GUIDE PAGE:	Not in 1968 Subscriber's Guide.
CHARACTERS NEEDED:	SCP + variable length
FUNCTION:	This field deals with various legends indicating that a work is circulated under restricted condition due to its rarity, fragility, or incidence of use.
PAGE IN CODING MANUAL:	!b
CODING SHEET LOCATION:	Center of catalog card
INPUT STREAM ENCODING:	!bVARIABLE DATA
FORMATS INTERNALLY AS:	ƀƀ$aVARIABLE DATA
DISPOSITION:	INCLUDE. B-FIELD code !b sets tag 506 and delimiter $a. Both indicators are set to blank.
DISCUSSION:	CSL-PC provides this field within the MARC record for that wide range of material that is circulated under restricted conditions, for more limited periods of time, or are not circulated at all. Such usage is widespread among all sorts of libraries likely to join the system.

RANGE: 507 b̸b̸ $a

MARCII FIELD NAME: "IN ANALYTIC" NOTE

MARCII FIELD RANK: SECONDARY

MARC II MAIN AREA: D. Variable fields

BASIC MARC II TAG: 507

SUBSC. GUIDE PAGE: Not in 1968 Subscriber's Guide

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Parts of a work or parts of a series of works which are not considered bibliographically separate entities but for which a catalog card was nevertheless made, are placed in this field.

PAGE IN CODING MANUAL: *g

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: *gVARIABLE DATA

FORMATS INTERNALLY AS: b̸b̸$aVARIABLE DATA

DISPOSITION: INCLUDE. B-FIELD tag *g sets tag 507 and delimiter $a in the MARC record. Both indicators are set to blank.

DISCUSSION: This field is provided by CSL-PC in order to identify catalog cards as described above. LC does not print such cards, but many libraries make and use 'in analytic' cards.

RANGE: 508 ƀƀ $a

MARCII FIELD NAME: "FULL NAME" NOTE

MARCII FIELD RANK: SECONDARY

MARC II MAIN AREA: D. Variable fields

BASIC MARC II TAG: 508

SUBSC. GUIDE PAGE: Not in 1968 Subscriber's Guide

CHARACTERS NEEDED: SCP + variable length

FUNCTION: Supplementary information on the name of a personal author main entry appears on certain LC cards printed before 1964 and is placed in this field.

PAGE IN CODING MANUAL: $\boxed{!p}$

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: !pVARIABLE DATA

FORMATS INTERNALLY AS: ƀƀ$aVARIABLE DATA

DISPOSITION: INCLUDE. B-FIELD tag !p sets tag 508 and delimiter $a. Both indicators are set to blank.

DISCUSSION: Closely allied in meaning with pseudonym delimiter $q, this field has been set up by CSL-PC to allow encoding of variant names in the same form as found on the original card.

RANGE: 520 ƀƀ $a

MARCII FIELD NAME: ABSTRACT OR ANNOTATION

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 520

SUBSC. GUIDE PAGE: 62

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Abstracts or shorter annotations sometimes appear on catalog cards in addition to the usual bibliographic information. These are dealt with as shown.

PAGE IN CODING MANUAL: !c

CODING SHEET LOCATION: Center of catalog card

INPUT STREAM ENCODING: !cVARIABLE DATA

FORMATS INTERNALLY AS: ƀƀ$aVARIABLE DATA

DISPOSITION: INCLUDE. B-FIELD code !c sets tag 520 and delimiter $a. Both indicators in this field are set to blank.

DISCUSSION: Because of the number of characters that must be carried in a MARC record in order to accommodate this field, its suppression may be suggested. To suppress this field, however, would violate the general principle that argues for preserving all data presently on the catalog card. This field will occur infrequently in most library catalogs.

RANGE: 600 DD $a $b $c $d $e $k $t $x $y $z

MARCII FIELD NAME: SUBJECT ADDED ENTRY - PERSONAL NAME

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 600

SUBSC. GUIDE PAGE: 62

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: This field is used to generate subject added entries in the same form as represented by the data in the personal author type of entry.

PAGE IN CODING MANUAL: *m jm !e !f !g !s

CODING SHEET LOCATION: Bottom of catalog card

INPUT STREAM ENCODING: *mVARIABLE DATA ...

FORMATS INTERNALLY AS: DD$aVARIABLE DATA ...

DISPOSITION: INCLUDE. B-FIELD tag *m sets high order digit in MARC tag (6xx). Tag 600 itself is set by I-FIELD jm digrams ranging from pa to pd. IND1 is set as under tag 100. IND2 is set by B-FIELD tags as follows: !e sets IND2 = 2, !f sets IND2 = 3, !g sets IND2 = 5, !s sets IND2 = 1, else IND2 = 0.

DISCUSSION: The inter-relatedness of the several fields having to do with the same basic type of entry - in this case the personal name type - is exploited by both MARC and CSL-PC through the use of parallel codes wherever possible.

RANGE: 610 DD $a $b $e $k $t $x $y $z

MARCII FIELD NAME: SUBJECT ADDED ENTRY - CORPORATE NAME

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 610

SUBSC. GUIDE PAGE: 62

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Subject added entries of the corporate author type will be generated in the same form as represented by the data.

PAGE IN CODING MANUAL: *m jm !e !f !g !s

CODING SHEET LOCATION: Bottom of catalog card

INPUT STREAM ENCODING: *mVARIABLE DATA ...

FORMATS INTERNALLY AS: DD$aVARIABLE DATA ...

DISPOSITION: INCLUDE. B-FIELD tag *m sets high order digit in MARC tag (6xx). Tag 610 itself is set by jm code digrams ranging from ca to cc. IND1 is set as under tag 110. IND2 is set as under tag 600.

DISCUSSION: Data in this field is obviously related to that found under tag 110 and tag 600. CSL-PC imitates MARC in the use of identical coding for related elements wherever possible.

RANGE:	611 DD $a $b $c $d $e $g $k $t $x $y
MARCII FIELD NAME:	SUBJECT ADDED ENTRY - CORPORATE NAME - CONFERENCE OR MEETING
MARCII FIELD RANK:	PRIMARY
MARC II MAIN AREA:	D. Variable fields.
BASIC MARC II TAG:	611
SUBSC. GUIDE PAGE:	63
CHARACTERS NEEDED:	SCP + variable length.
FUNCTION:	Subject added entries of the corporate name type having some conference or meeting subdivision appended to it, will generate from the data represented in this field.
PAGE IN CODING MANUAL:	*m jm !e !f !g !s
CODING SHEET LOCATION:	Bottom of catalog card
INPUT STREAM ENCODING:	*mVARIABLE DATA ...
FORMATS INTERNALLY AS:	DD$aVARIABLE DATA ...
DISPOSITION:	INCLUDE. B-FIELD tag *m sets high order digit in MARC tag (6xx). 611 itself is set from I-FIELD jm digrams ranging from fa to fc. IND1 is set as under tag 111. IND2 is set as under tag 600.
DISCUSSION:	Data in this field is obviously related to that found under tag 111 and tag 600. CSL-PC imitates MARC in the use of identical coding for related elements wherever possible.

RANGE: 630 BD $a $t $x $y $z

MARCII FIELD NAME: SUBJECT ADDED ENTRY - UNIFORM TITLE HEADING

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 630

SUBSC. GUIDE PAGE: 63

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Uniform title headings will be used as represented in this field to generate subject added entries.

PAGE IN CODING MANUAL: *m jm !e !f !g !s

CODING SHEET LOCATION: Bottom of catalog card

INPUT STREAM ENCODING: *mVARIABLE DATA ...

FORMATS INTERNALLY AS: BD$aVARIABLE DATA ...

DISPOSITION: INCLUDE. B-FIELD tag *m sets high digit in MARC tag (6xx). Tag 630 itself is set by the I-FIELD code sequence jmua. IND1 is set as under tag 130. IND2 is set as under tag 600.

DISCUSSION: CSL-PC has provided a binary code for IND1 in this field as well as in the 130 field. Other data elements and indicators are as found in the MARC usage.

RANGE: 650 ƀD $a $x $y $z

MARCII FIELD NAME: SUBJECT ADDED ENTRY - TOPICAL

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 650

SUBSC. GUIDE PAGE: 63

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Subject added entries for general subject terms such as are authorized by the Library of Congress List of Subject Headings, will be generated from this field.

PAGE IN CODING MANUAL: *m jm !e !f !g !s

CODING SHEET LOCATION: Bottom of catalog card

INPUT STREAM ENCODING: *mVARIABLE DATA ...

FORMATS INTERNALLY AS: ƀD$aVARIABLE DATA ...

DISPOSITION: INCLUDE. B-FIELD tag *m sets high order digit in MARC tag (6xx). Tag 650 itself is set by I-FIELD digram codes jmta or jmtb. IND1 is set to blank. IND2 is set as under tag 600.

DISCUSSION:

RANGE: 651 ƀD $a $x $y $z

MARCII FIELD NAME: SUBJECT ADDED ENTRY - GEOGRAPHIC NAME

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 651

SUBSC. GUIDE PAGE: 63-64

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Subject added entries defined as geographic names will be generated from data entered in this field.

PAGE IN CODING MANUAL: *m jm !e !f !g !s

CODING SHEET LOCATION: Bottom of catalog card

INPUT STREAM ENCODING: *mVARIABLE DATA ...

FORMATS INTERNALLY AS: ƀD$aVARIABLE DATA ...

DISPOSITION: INCLUDE. B-FIELD tag *m sets high order digit in MARC tag (6xx). Tag 651 itself is set by the I-FIELD code sequences jmga or jmgb. IND1 is set to blank. IND2 is set as under tag 600.

DISCUSSION:

RANGE:	652 ƀD $a $x $y $z
MARCII FIELD NAME:	SUBJECT ADDED ENTRY - POLITICAL JURISDICTION ALONE OR WITH SUBJECT SUBDIVISIONS
MARCII FIELD RANK:	PRIMARY
MARC II MAIN AREA:	D. Variable fields.
BASIC MARC II TAG:	652
SUBSC. GUIDE PAGE:	64
CHARACTERS NEEDED:	SCP + variable length.
FUNCTION:	Political jurisdictions are made subject added entries from the data which will be found in this field.
PAGE IN CODING MANUAL:	*m jm !e !f !g !s
CODING SHEET LOCATION:	Bottom of catalog card
INPUT STREAM ENCODING:	*mVARIABLE DATA ...
FORMATS INTERNALLY AS:	ƀD$aVARIABLE DATA ...
DISPOSITION:	INCLUDE. B-FIELD tag *m sets high order digit in MARC tag (6xx). Tag 652 itself is set by I-FIELD code jmda. IND1 is set to blank. IND2 is set as under tag 600.
DISCUSSION:	

RANGE: 653 ƀD $a $x $y $z

MARCII FIELD NAME: **SUBJECT ADDED ENTRY - PROPER NAME NOT CAPABLE OF AUTHORSHIP**

MARCII FIELD RANK: **TERTIARY**

MARC II MAIN AREA: **D. Variable fields.**

BASIC MARC II TAG: 653

SUBSC. GUIDE PAGE: 64-65

CHARACTERS NEEDED: **SCP + variable length.**

FUNCTION: **Subject added entries of the proper name incapable of authorship type can be generated using the data in this field.**

PAGE IN CODING MANUAL: ***m** **jm**

CODING SHEET LOCATION: **Bottom of catalog card**

INPUT STREAM ENCODING:

FORMATS INTERNALLY AS:

DISPOSITION: **DEFER.** **Provide for the inclusion of tag 653 as needed later.**

DISCUSSION: **CSL-PC has no explicit code that maps directly into this MARC tag. Entries that might appear under this tag are subsumed under CSL-PC jm codes ta-tb.**

RANGE: 700 DD $a $b $c $d $e $k $t $u

MARCII FIELD NAME: OTHER ADDED ENTRY - PERSONAL NAME

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 700

SUBSC. GUIDE PAGE: 65

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Added entries which are neither subject nor series, but are of the personal author type, produce added entries from this field.

PAGE IN CODING MANUAL: *q jq

CODING SHEET LOCATION: Bottom of catalog card

INPUT STREAM ENCODING: *qVARIABLE DATA ...

FORMATS INTERNALLY AS: DD$aVARIABLE DATA...

DISPOSITION: INCLUDE. B-FIELD tag *q sets high order digit in MARC tag (7xx). 700 itself is set by any jq digram ranging from pa to pm. IND1 is set as under tag 100. IND2 is set as a function of the second letter of the jq digram codes: pa-pd sets IND2 = 0, pe-ph sets IND2 = 1, and pi-pm sets IND2 = 2.

DISCUSSION: Data in this field is obviously related to that found under tag 100. CSL-PC imitates MARC in the use of identical coding for related elements wherever possible.

RANGE: 710 DD $a $b $e $k $t $u

MARCII FIELD NAME: OTHER ADDED ENTRY - CORPORATE NAME

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 710

SUBSC. GUIDE PAGE: 65

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Corporate author types of non-subject, non-series added entries are constructed from the data found in this field.

PAGE IN CODING MANUAL: *q jq

CODING SHEET LOCATION: Bottom of catalog card

INPUT STREAM ENCODING: *qVARIABLE DATA ...

FORMATS INTERNALLY AS: DD$aVARIABLE DATA ...

DISPOSITION: INCLUDE. B-FIELD tag *q sets high order digit in MARC tag (7xx). 710 itself is set by any jq digram ranging from ca to ci. IND1 is set as under tag 110. IND2 is set as a function of the second letter in the jq digram codes: ca-cc sets IND2 = 0, cd-cf sets IND2 = 1, and cg-ci sets IND2 = 2.

DISCUSSION: Data in this field is obviously related to that found under tag 110. CSL-PC imitates MARC in the use of identical coding for related elements wherever possible.

RANGE: 711 DD $a $b $c $d $e $g $k $t $u

MARCII FIELD NAME: OTHER ADDED ENTRY - CORPORATE NAME - CONFERENCE OR MEETING

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 711

SUBSC. GUIDE PAGE: 65-66

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Other added entries for conference or meeting tracings are produced using the data found in this field.

PAGE IN CODING MANUAL: *q jq

CODING SHEET LOCATION: Bottom of catalog card

INPUT STREAM ENCODING: *qVARIABLE DATA ...

FORMATS INTERNALLY AS: DD$aVARIABLE DATA ...

DISPOSITION: INCLUDE. B-FIELD tag *q sets high order digit in MARC tag (7xx). 711 itself is set by any jq digram ranging from fa to fi. IND1 is set as under tag 111. IND2 is set as a function of the second letter in the jq digram codes: fa-fc sets IND2 = 0, fd-ff sets IND2 = 1, and fg-fi sets IND2 = 2.

DISCUSSION: Data in this field is obviously related to that found under tag 111. CSL-PC imitates MARC in the use of identical coding for related elements wherever possible.

RANGE:	730 BD $a $t $u
MARCII FIELD NAME:	OTHER ADDED ENTRY - UNIFORM TITLE HEADING
MARCII FIELD RANK:	PRIMARY
MARC II MAIN AREA:	D. Variable fields.
BASIC MARC II TAG:	66
SUBSC. GUIDE PAGE:	SCP + variable length.
CHARACTERS NEEDED:	
FUNCTION:	Uniform title headings of the non-subject, non-series type are constructed from the data found in this field.
PAGE IN CODING MANUAL:	*q jq
CODING SHEET LOCATION:	Bottom of catalog card
INPUT STREAM ENCODING:	*qVARIABLE DATA ...
FORMATS INTERNALLY AS:	BD$aVARIABLE DATA ...
DISPOSITION:	INCLUDE. B-FIELD tag *q sets high order digit in MARC tag (7xx). 730 itself is set by any jq digram ranging from ua to uc. IND1 is set as under tag 130. IND2 is set as a function of second letter in the jq digram codes: ua sets IND2 = 0, ub sets IND2 = 1, and uc sets IND2 = 2.
DISCUSSION:	Tagged data in this field is related to that found under tag 130. CSL-PC imitates MARC in the use of identical coding for related elements wherever possible.

RANGE: 740 b̸b̸ $a

MARCII FIELD NAME: **TITLE TRACED DIFFERENTLY**

MARCII FIELD RANK: **PRIMARY**

MARC II MAIN AREA: **D. Variable fields.**

BASIC MARC II TAG: 740

SUBSC. GUIDE PAGE: 66

CHARACTERS NEEDED: **SCP + variable length.**

FUNCTION: **Titles in a form different from that found under tag 245 will be entered in this field in order to generate added entries as needed.**

PAGE IN CODING MANUAL: / SHORT TITLE qa

CODING SHEET LOCATION: **Top of catalog card**

INPUT STREAM ENCODING: **/VARIABLE DATA**

FORMATS INTERNALLY AS: **b̸b̸$aVARIABLE DATA**

DISPOSITION: **INCLUDE.** **I-FIELD code qa sets IND1 under tag 245 = 1 which in turn sets tag 740 and delimiter $a under it. Both indicators are blank.**

DISCUSSION:

RANGE: 800 Dƀ $a $b $c $d $e $k $t $v

MARCII FIELD NAME: SERIES ADDED ENTRY - PERSONAL NAME/TITLE

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 800

SUBSC. GUIDE PAGE: 67

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Added entries for series tracings of the personal author plus title type will be generated using the data found in this field.

PAGE IN CODING MANUAL: *r jr

CODING SHEET LOCATION: Bottom of catalog card

INPUT STREAM ENCODING: *rVARIABLE DATA ...

FORMATS INTERNALLY AS: Dƀ$aVARIABLE DATA ...

DISPOSITION: INCLUDE. B-FIELD tag *r sets high order digit in MARC tag (8xx). 810 itself is set from the I-FIELD jr codes ranging from pa to pd. IND1 is set as under tag 100. IND2 is set to blank.

DISCUSSION: Data found under this tag is obviously related to that found under tags 100 and 400. CSL-PC imitates MARC in the use of identical coding for related elements wherever possible.

RANGE: 810 Dƀ $a $b $e $k $t $v

MARCII FIELD NAME: SERIES ADDED ENTRY - CORPORATE NAME/TITLE

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 810

SUBSC. GUIDE PAGE: 67

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Added entries for series tracings of the corporate author plus title type will be generated using the data found in this field.

PAGE IN CODING MANUAL: *r jr

CODING SHEET LOCATION: Bottom of catalog card

INPUT STREAM ENCODING: *rVARIABLE DATA ...

FORMATS INTERNALLY AS: Dƀ$aVARIABLE DATA ...

DISPOSITION: INCLUDE. B-FIELD tag *r sets high order digit in MARC tag (8xx). 810 itself is set from the I-FIELD jr codes ranging from ca to cc. IND1 is set as under tag 110. IND2 is set to blank.

DISCUSSION: Data found under this tag is obviously related to that found under tags 110 and 410. CSL-PC imitates MARC in the use of identical coding for related elements wherever possible.

RANGE: 811 Db̸ $a $b $c $d $e $g $k $t $v

MARCII FIELD NAME: SERIES ADDED ENTRY - CONFERENCE OR MEETING/TITLE

MARCII FIELD RANK: PRIMARY

MARC II MAIN AREA: D. Variable fields.

BASIC MARC II TAG: 811

SUBSC. GUIDE PAGE: 67

CHARACTERS NEEDED: SCP + variable length.

FUNCTION: Added entries for series tracings of the conference or meeting plus title type will be generated using the data found in this field.

PAGE IN CODING MANUAL: *r jr

CODING SHEET LOCATION: Bottom of catalog card

INPUT STREAM ENCODING: *rVARIABLE DATA ...

FORMATS INTERNALLY AS: Db̸$aVARIABLE DATA ...

DISPOSITION: INCLUDE. B-FIELD tag *r sets high order digit in MARC tag (8xx). 811 itself is set from the I-FIELD jr codes ranging from fa to fc. IND1 is set as under tag 111. IND2 is set to blank.

DISCUSSION: Data found under this tag is obviously related to that found under tags 111 and 411. CSL-PC imitates MARC in the use of identical coding for related elements wherever possible.

RANGE:	840 b̸b̸ $a $v
MARCII FIELD NAME:	SERIES ADDED ENTRY - TITLE
MARCII FIELD RANK:	PRIMARY
MARC II MAIN AREA:	D. Variable fields.
BASIC MARC II TAG:	840
SUBSC. GUIDE PAGE:	67
CHARACTERS NEEDED:	SCP + variable length.
FUNCTION:	Titles traced the same as the form found in the body of the catalog card produce series added entries using the data found in this field.
PAGE IN CODING MANUAL:	*r jr
CODING SHEET LOCATION:	Bottom of catalog card
INPUT STREAM ENCODING:	*rVARIABLE DATA ...
FORMATS INTERNALLY AS:	b̸b̸$aVARIABLE DATA($vVARIABLE DATA)
DISPOSITION:	INCLUDE. B-FIELD tag *r sets high order digit in MARC tag (8xx). 840 itself is set from the I-FIELD jr code sa only. IND1 and IND2 are both set to blank.
DISCUSSION:	Data found under this tag is obviously related to that found under tag 440. CSL-PC imitates MARC in the use of identical coding for related elements wherever possible.